

July 30, 2013

Mr. Len Zintak On-Scene Coordinator US Environmental Protection Agency Region 5 77 West Jackson Boulevard (SE-5J) Chicago, IL 60604-3507

Subject: Residential Well Sampling at 746 South Blackjack Road

Bautsch-Gray Mine Site Jo Daviess County, Illinois

Technical Direction Document No. S05-0001-0911-035

Document Control No. 874-2A-BHZM Work Order No. 20405.012.001.0874.00

Dear Mr. Zintak:

Under Technical Direction Document (TDD) No. S05-0001-0911-035, the U.S. Environmental Protection Agency tasked the Weston Solutions, Inc. (WESTON®), Superfund Technical Assessment and Response Team (START) to conduct residential well sampling at 746 South Blackjack Road, which is adjacent to the Bautsch-Gray Mine Site in Jo Daviess County, Illinois (the Site).

This letter report provides a Site description and discusses residential well sampling and analytical results.

SITE DESCRIPTION

The Site is located at approximately 800 South Blackjack Road in Jo Daviess County, Illinois, approximately 4 miles south of downtown Galena, Illinois, and includes the following (**Figure 1** in **Attachment A**):

- A former Bautsch-Gray lead and zinc mine property that occupies approximately 55 acres
- A horseshoe-shaped retention area containing mine tailings located at 798 South Blackjack Road that occupies approximately 4.8 acres

The Site is located in a rural, agricultural, and residential area. The Mississippi River is located approximately 2 miles west of the Site. The meridian coordinates of the approximate center of the mine tailings pile at the Site are 42° 21' 26.72" North latitude and 90° 23' 54.85" West longitude. The residential property at 746 South Blackjack Road is located across South Blackjack Road east of the mine property and north of the horseshoe-shaped retention area (**Figure 1** in **Attachment A**).

From 2010 through 2012, a removal action was conducted at the Site that included (1)



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excavation of lead-contaminated soil from the residential property located at 746 South Blackjack Road, (2) stabilization of mine tailings, (3) management of surface water at the mine property, and (4) covering of the horseshoe-shaped area with vegetative growth to prevent surface migration of lead- and arsenic-contaminated mine tailings.

In July 2010, under an Administrative Order by Consent, the potentially responsible parties (PRP) for the Site contracted the installation of a reverse osmosis (RO) drinking water filtration system for the private well at the residence located at 746 South Blackjack Road.

RESIDENTIAL WELL SAMPLING AND ANALYTICAL RESULTS

This section provides an overview and chronological narrative of residential well sampling activities conducted at 746 South Blackjack Road. The residential well was sampled by first purging the well water for approximately 15 minutes or until water quality parameters had stabilized (at least two consecutive readings within \pm 0.1 standard unit [SU] for pH, \pm 3 percent for conductivity, and \pm 0.1 degree Celsius for temperature). Unused sampling gloves were worn for sample collection. After purging, water sample bottles were filled directly from the tap.

The water well at 746 South Blackjack Road was sampled on ten different dates from 2009 through 2013. Below is a summary of the samples collected by date and the analytical results. **Table 1** in **Attachment B** summarizes the analytical results. **Attachment C** contains copies of the analytical results reports from the laboratory and their respective data validation reports.

- October 6, 2009: One sample of untreated well water was collected during the initial site assessment and analyzed for volatile organic compounds (VOC), semivolatile organic compounds (SVOC), metals, and pH. VOCs and SVOCs were not detected in the sample. The sample contained cadmium, copper, and lead at 0.0011, 0.021, and 0.027 milligrams per liter (mg/L), respectively. The lead result exceeded the EPA Maximum Contaminant Level (MCL) of 0.015 mg/L.
- <u>August 3, 2010:</u> One sample of treated water and a field duplicate sample were collected and analyzed for arsenic, cadmium, and lead. This sampling event occurred after the RO filtration system was installed in July 2010. The samples contained lead at 0.0024 and 0.0025 mg/L. These results are below the EPA MCL and are more than 10 times lower than the lead concentration in the sample collected in October 2009.
- October 28, 2010: One sample of treated water was collected and analyzed for arsenic and lead, which were not detected above the reporting limits.
- <u>July 11, 2011:</u> One sample of treated water was collected and analyzed for arsenic and lead, which were not detected above the reporting limits.
- <u>July 16, 2011:</u> One sample of treated water was collected and analyzed for pH and copper. The sample pH was 5.2 SUs. Water with a pH of less than 6.5 SUs can corrode



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pipes and result in a bitter taste to water. The sample contained copper at 0.065 mg/L, which is below the EPA MCL.

- August 11, 2011: Four samples were collected, with the treatment system both on and off, and analyzed for pH. One sample and a field duplicate were collected from the kitchen sink faucet with the treatment system on. These samples had pH values of 6.2 and 5.6 SUs, respectively. Two samples were collected with the treatment system off, one from the kitchen sink faucet and one from the outside spigot on the north wall of the residence. These two samples had pH values of 6.8 and 6.7 SUs, respectively. Based on the sample results, the RO system apparently was causing the pH of the water to be lowered.
- <u>July 11 and 12, 2012:</u> One sample of treated water and one sample of untreated water were collected and analyzed for pH, arsenic, copper, and lead. The treated and untreated water samples had pH values of 5.4 and 6.9 SUs, respectively. Arsenic was not detected in either sample. The treated water sample contained copper at 0.2 mg/L, and lead was not detected above 0.0029 mg/L. The untreated water sample contained copper at 0.011 mg/L and lead at 0.03 mg/L. The lead result for the untreated water sample exceeds the EPA MCL.
- **February 12, 2013:** Two samples of treated water were collected and analyzed for pH, arsenic, and lead. The treated water samples had pH values of 5.5 and 5.4 SUs, respectively. Arsenic and lead were not detected in either sample. In addition, the treated water was filtered through a 5-micron filter and a 0.45-micron filter and analyzed for arsenic and lead. Arsenic and lead were not detected in either filtered sample.
- <u>July 25, 2013</u>: Three samples were collected, with the treatment system both on and off, and analyzed for pH, arsenic, copper, and lead. One sample and a field duplicate were collected from the kitchen sink faucet with the treatment system on. These samples had pH values of 5.1 and 5.2 SUs, respectively. Copper was detected in both samples at 0.028 mg/L. Lead and arsenic were not detected in these two samples. One sample was collected with the treatment system off, from the outside spigot. This sample had pH value of 6.9 SUs. Lead was detected in the untreated water at 0.028 mg/L which exceeds the EPA MCL. Copper was detected at 0.014 mg/L in the untreated sample.

In summary, the well water at 746 South Blackjack Road was sampled on ten different dates over approximately 4 years. The initial sample collected before installation of the RO filtration system contained lead at a concentration exceeding the EPA MCL. After installation of the RO filtration system, lead concentrations decreased greatly to below the EPA MCL. However, the RO filtration system sometimes apparently lowers the pH of the water.

If you have any questions or comments regarding this report or need additional copies, please contact me at (312) 424-3300.



Mr. Len Zintak U.S. EPA Region 5

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Very truly yours,

WESTON SOLUTIONS, INC.

Lisa Graczyk

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WESTON START Project Manager

Attachments:

A – Figure

B-Table

C – Analytical Results with Data Validation Reports

cc: WESTON START DCN File

ATTACHMENT A FIGURE

FILE: D:\Bautsch_Grey\mxd\LR_F1_Site_Features.mxd 7/19/2013 11:21:11 AM wojdakon

ATTACHMENT B TABLE

Table 1
Analytical Results Summary - Residential Well Water at 746 South Blackjack Road
Bautsch Gray Mine Site
Jo Daviess County, Illinois

							Í	
		Sample ID	BG-RW01-100609	BG-RW01-080310	BG-RW01-080310D	BG-746-102810		
		Sampling Date	October 6, 2009	August 3, 2010	August 3, 2010	October 28, 2010		
	Sam	pling Location	746 S. Blackjack Rd.*	746 S. Blackjack Rd.	Field Duplicate	746 S. Blackjack Rd.		
			Outside Faucet North	Kitchen Sink Faucet;	Kitchen Sink Faucet;	Kitchen Sink Faucet;		
		Comments	Wall; Untreated Water	Treated Water	Treated Water	Treated Water		
Parameter	Unit	MCL		Res	sult			
pН	SU		6.95	NA	NA	NA		
Metals								
Arsenic, Total	mg/L	0.01	< 0.0010	< 0.004	< 0.004	< 0.010		
Cadmium, Total	mg/L	0.005	0.0011 J+	< 0.002	< 0.002	NA		
Copper, Total	mg/L	1.3	0.021	NA	NA	NA		
Lead, Total	mg/L	0.015	0.027	0.0024	0.0025	< 0.0075		
		Sample ID	BG-746-071111	BG-746-071611	BG-746-TAP01-081111	BG-746-TAP01-081111D	BG-746-TAP02-081111	BG-746-TAP03-081111
	,	Sample 115	July 11, 2011	July 16, 2011	August 11, 2011	August 11, 2011	August 11, 2011	August 11, 2011
		pling Location	746 S. Blackjack Rd.	746 S. Blackjack Rd.	746 S. Blackjack Rd.	Field Duplicate of TAP-01	746 S. Blackjack Rd.	746 S. Blackjack Rd.
	Sum	pring Location	Kitchen Sink Faucet;	Kitchen Sink Faucet;	Kitchen Sink Faucet,	Kitchen Sink Faucet,	Kitchen Sink Faucet,	North Wall Outside Spigot,
		Comments	Treated Water	Treated Water	Treated Water	Treated Water	Untreated Water	Untreated Water
Parameter	Unit	MCL	Trouted Water	Trouted Water		sult	Character Water	Ontrodied Water
рН	SU		NA	5.2	6.2	5.6	6.8	6.7
Metals	-							
Arsenic, Total	mg/L	0.01	< 0.004	NA	NA	NA	NA	NA
Cadmium, Total	mg/L	0.005	NA	NA	NA	NA	NA	NA
Copper, Total	mg/L	1.3	NA	0.065	NA	NA	NA	NA
Lead, Total	mg/L	0.015	< 0.0052	NA	NA	NA	NA	NA
		Sample ID	BG-RW01-071112	BG-RW03-071212	BG-HP-TW-021213	BG-HP-RW-021213	BG-HP-RW-021213-05	BG-HP-RW-021213-045
		Sampling Date	July 11, 2012	July 12, 2012	February 12, 2013	February 12, 2013	February 12, 2013	February 12, 2013
		pling Location	746 S. Blackjack Rd.	746 S. Blackjack Rd.	746 S. Blackjack Rd.	746 S. Blackjack Rd.	746 S. Blackjack Rd.	746 S. Blackjack Rd.
		Ĭ	-	-	-	-	-	-
				Outside Spigot, Untreated	Kitchen Sink Faucet;	North Wall Outside Spigot;	Treated Water Filtered	Treated Water Filtered
		Comments	Treated Water	Water	Treated Water	Treated Water	through 5-micron Filter	through 0.45-micron Filter
Parameter	Unit	MCL				sult		
pН	SU		5.4	6.9	5.5	5.4	NA	NA
Metals				1		7		1
Arsenic, Total	mg/L	0.01	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004
Cadmium, Total	mg/L	0.005	NA	NA	NA	NA	NA	NA
Copper, Total						374		N.T.A
Lead, Total	mg/L mg/L	1.3 0.015	0.2 <0.0029	0.011	NA <0.004	NA <0.004	NA <0.004	NA <0.004

Table 1
Analytical Results Summary - Residential Well Water at 746 South Blackjack Road
Bautsch Gray Mine Site
Jo Daviess County, Illinois

		Sample ID	BG-RW01-072513	BG-RW01-072513D	BG-RW02-072513
		Sampling Date	July 25, 2013	July 25, 2013	July 25, 2013
	Sam	pling Location	746 S. Blackjack Rd.	Field Duplicate	746 S. Blackjack Rd.
			Kitchen Sink Faucet;	Kitchen Sink Faucet;	Outside Spigot, Untreated
		Comments	Treated Water	Treated Water	Water
Parameter	Unit	MCL		Result	
pН	SU		5.1	5.2	6.9
			Metals		
Arsenic, Total	mg/L	0.01	< 0.004	< 0.004	< 0.004
Cadmium, Total	mg/L	0.005	NA	NA	NA
Copper, Total	mg/L	1.3	0.028	0.028	0.014
Lead, Total	mg/L	0.015	< 0.005	< 0.0045	0.028

Notes:

Bolded results exceed reporting limits.

Yellow highlighted results exceed MCLs.

*The reverse osmosis drinking water filtration system was installed in July 2010.

< = Less than

ID = Identification

J+ = Result should be considered estimated biased high

MCL = Maximum contaminant level

mg/L = Milligram per liter

NA = Not analyzed

SU = Standard unit

ATTACHMENT C ANALYTICAL RESULTS WITH DATA VALIDATION REPORTS

BAUTSCH GREY MINE SITE GALENA, ILLINOIS DATA VALIDATION REPORT

Date: November 10, 2009

Laboratory: TestAmerica Laboratories, Inc. (TestAmerica), University Park, Illinois

Laboratory Project #: 500-21700-1

Data Validation Performed By: Lisa Graczyk, Weston Solutions, Inc. (Weston) Superfund Technical

Assessment and Response Team (START)

Weston Analytical TDD/Work Order #: S05-0001-0909-012/20405.016.001.0768.00

This data validation report has been prepared by Weston START under the START III Region V contract. This report documents the data validation for five water samples (plus one trip blank) collected for the Bautsch Grey Mind Site that were analyzed for the following parameters and methods:

- Volatile Organic Compounds (VOC) by U.S. Environmental Protection Agency (U.S. EPA) SW-846 Method 8260B
- Semivolatile Organic Compounds (SVOC) by U.S. EPA SW-846 Method 8270C
- Total Metals by U.S. EPA SW-846 Methods 6020 and 7470A
- pH by U.S. EPA SW-846 Method 9040B

A level IV data package was requested from TestAmerica. The data validation was conducted in general accordance with the U.S. EPA "Contract Laboratory Program National Functional Guidance for Superfund Organic Methods Data Review" dated June 2008 and "Contract Laboratory Program National Functional Guidelines for Inorganic Data Review" dated October 2004. The Attachment contains the results summary sheets with hand-written data qualifiers.

VOCs BY METHOD 8260B

1. Samples

The following table summarizes the samples for which this data validation is being conducted.

			Date	Date
Samples	Lab ID	Matrix	Collected	Analyzed
BG-RW01-100609	500-21700-1	Water	10/6/2009	10/14/2009
BG-RW02-100609	500-21700-2	Water	10/6/2009	10/14/2009
BG-RW02-100609	500-21700-3	Water	10/6/2009	10/14/2009
BG-SW01-100709	500-21700-4	Water	10/7/2009	10/14/2009
BG-SW02-100709	500-21700-5	Water	10/7/2009	10/14/2009
TRIP BLANK	500-21700-6	Water	10/6/2009	10/14/2009

2. Holding Times

The samples were analyzed within the required holding time limit of 14 days from sample collection.

3. Gas Chromatograph/Mass Spectrometer (GC/MS) Instrument Performance Check

The instrument performance check using bromofluorobenzene (BFB) was performed and met the ion abundance criteria specified in method 8260B.

4. <u>Calibration Results</u>

For the initial calibration, the percent relative standard deviations (%RSD) for target compounds were less than 30.

The percent differences in the continuing calibration standard for target compounds were within the control limit of less than or equal to 25 percent except for as follows.

In the continuing calibration, bromomethane was outside the QC limit. The quantitation limits for the non-detected bromomethane results were flagged "UJ" as estimated.

5. Blanks

A method blank was analyzed with the samples and was free of target compound contamination above the reporting limit. The trip blank was also free of target compound contamination above the reporting limit.

Data Validation Report Bautsch Grey Mine Site TestAmerica Laboratories, Inc. Laboratory Project #: 500-21700-1

6. <u>Surrogate Recoveries</u>

The surrogate recoveries were within the laboratory-established QC limits.

7. <u>LCS Results</u>

The LCS recoveries were within the laboratory-established QC limits.

8. <u>Field Duplicate Results</u>

Both the field duplicate and parent investigative sample contained no detections of target VOC analytes indicating good correlation.

9. <u>Internal Standard Results</u>

The internal standard area counts were within -50 percent to +100 percent of the area counts in the associated continuing calibration standard. The retention time of the internal standards did not vary more than ± 30 seconds from the retention time of the associated continuing calibration standard.

10. Overall Assessment

The VOC data are acceptable for use based on the information received.

Note that extra volumes for matrix spike (MS) and matrix spikes duplicate (MSD) were not provided to the laboratory and therefore, the laboratory did not analyze a site-specific MS/MSD with the analysis. In addition, it was confirmed that target analytes were not detected in the samples (except for acetone in sample BG-SW01-100709).

SVOCs BY METHOD 8270C

1. <u>Samples</u>

The following table summarizes the samples for which this data validation is being conducted.

			Date	Date	Date
Samples	Lab ID	Matrix	Collected	Prepared	Analyzed
BG-RW01-100609	500-21700-1	Water	10/6/2009	10/12/2009	10/13/2009
BG-RW02-100609	500-21700-2	Water	10/6/2009	10/12/2009	10/13/2009
BG-RW02-100609	500-21700-3	Water	10/6/2009	10/12/2009	10/13/2009
BG-SW01-100709	500-21700-4	Water	10/7/2009	10/12/2009	10/13/2009
BG-SW02-100709	500-21700-5	Water	10/7/2009	10/12/2009	10/13/2009

2. <u>Holding Times</u>

The samples were analyzed within the required holding time limit of 7 days from sample collection to extraction and 40 days from extraction to analysis for water samples.

3. Instrument Performance Check

The instrument performance check using decafluorotriphenylphosphine (DFTPP) met the ion abundance criteria specified in method 8270C.

4. Calibration Results

The initial calibration had acceptable results. The %RSD for all detected compounds were less than 30 and the average relative response factors were all greater than 0.05.

The %Ds in the CCV were within the QC limit of less than or equal to 20 percent for target compounds.

5. Blanks

Method blanks were analyzed with the samples and were free of target compound contamination above the reporting limit.

6. Surrogates Results

The surrogate spike recoveries were within the laboratory-established QC limits.

Data Validation Report Bautsch Grey Mine Site TestAmerica Laboratories, Inc. Laboratory Project #: 500-21700-1

7. <u>LCS Results</u>

The LCS recoveries were within the laboratory-established QC limits.

8. Field Duplicate Results

Both the field duplicate and parent investigative sample contained no detections of target SVOC analytes indicating good correlation.

9. Internal Standard Results

The internal standard area counts were within -50 percent to +100 percent of the area counts in the associated continuing calibration standard. The retention time of the internal standards did not vary more than ± 30 seconds from the retention time of the associated continuing calibration standard.

10. Overall Assessment

The SVOC data are acceptable for use as qualified based on the information received. Note that extra volumes for MS and MSD were not provided to the laboratory and therefore, the laboratory did not analyze a site-specific MS/MSD with the analysis. In addition, it was confirmed that target analytes were not detected in the samples.

TOTAL METALS BY METHODS 6020 AND 7470A

1. <u>Samples</u>

The following table summarizes the samples for which this data validation is being conducted.

			Date	
Samples	Lab ID	Matrix	Collected	Date Analyzed
BG-RW01-100609	500-21700-1	Water	10/6/2009	10/12/2009 – 10/20/2009
BG-RW02-100609	500-21700-2	Water	10/6/2009	10/12/2009 - 10/14/2009
BG-RW02-100609	500-21700-3	Water	10/6/2009	10/12/2009 - 10/14/2009
BG-SW01-100709	500-21700-4	Water	10/7/2009	10/12/2009 – 10/20/2009
BG-SW02-100709	500-21700-5	Water	10/7/2009	10/12/2009 – 10/20/2009

Data Validation Report Bautsch Grey Mine Site TestAmerica Laboratories, Inc. Laboratory Project #: 500-21700-1

2. <u>Holding Times</u>

The samples were analyzed within the required holding time limit of 28 days from sample collection for mercury and 180 days from sample collection for all other metals.

3. Calibrations

The initial calibration verification and continuing calibration verification standards were within the QC limits of 90 to 110 percent recovery (%R).

4. Blank Results

Method blanks and calibration blanks were analyzed with the samples and were free of target analytes above the reporting limit except for as follows.

Cadmium was detected slightly above the reporting limit at 0.000675 milligram per liter (mg/L). Cadmium results at less than 10 times this concentration were flagged "J+" as estimated with a high bias.

Some target metals were detected below the reporting limit; however, in most instances there were either no detections in the samples or the sample result was much greater than the blank result. The exception was copper in sample BG-RW02-100609. This copper result was flagged "U" as not detect.

5. Interference Check Sample (ICS) Results

The ICS solutions A and AB were analyzed. The recoveries in the ICS solution AB were within the QC limits of 80 to 120 %R.

6. <u>LCS Results</u>

The LCS recoveries were within the laboratory-established QC limits for target analytes.

7. Field Duplicate Results

The relative percent difference (RPD) between the field duplicate and investigative sample was calculated for each detected metal. There is no RPD QC limit set for field duplicates; however, a standard RPD limit of 50 was used for comparison purposes. The RPDs ranged from 0 to 50 percent which indicates good correlation.

8. MS and MSD Results

Extra volumes for MS and MSD were not provided to the laboratory and therefore, the laboratory did not analyze a site-specific MS/MSD with the analysis.

9. Overall Assessment

The metals data are acceptable for use as qualified based on the information received. Sample results were spot-checked against raw data and they appear to have been reported correctly.

MISCELLANEOUS PARAMETERS (pH by 9040B)

1. <u>Samples</u>

The following table summarizes the samples for which this data validation is being conducted.

			Date	Date
Samples	Lab ID	Matrix	Collected	Analyzed
BG-RW01-100609	500-21700-1	Water	10/6/2009	10/9/2009
BG-RW02-100609	500-21700-2	Water	10/6/2009	10/9/2009
BG-RW02-100609	500-21700-3	Water	10/6/2009	10/9/2009
BG-SW01-100709	500-21700-4	Water	10/7/2009	10/9/2009
BG-SW02-100709	500-21700-5	Water	10/7/2009	10/9/2009

2. <u>Holding Times</u>

There is not specific holding time limit for pH; although, the method states that the analysis should be run as soon as possible. pH was analyzed between 2 and 3 days from sample collection.

3. <u>Duplicate Results</u>

Laboratory duplicates were analyzed with the pH analyses. The RPDs between he duplicate and parent sample were within the QC limit.

In addition the field duplicate RPD value was 0.8 percent indicating excellent correlation.

Data Validation Report Bautsch Grey Mine Site TestAmerica Laboratories, Inc. Laboratory Project #: 500-21700-1

4. Overall Assessment

The pH data are acceptable for use based on the information received.

Data Validation Report Bautsch Grey Mine Site TestAmerica Laboratories, Inc. Laboratory Project #: 500-21700-1

ATTACHMENT

TESTAMERICA LABORATORIES, INC. RESULTS SUMMARY



ANALYTICAL REPORT

Job Number: 500-21700-1

Job Description: Bautsch-Grey Mine

For:

Weston Solutions, Inc. 20 N Wacker Dr Chicago, IL 60602-4206

Attention: Lisa Graczyk

Cindy Pritchard

Approved for release. Cindy R Pritchard Project Mgmt, Assistan 10/23/2009 11:38 AM

Designee for
Richard C Wright
Project Manager II
richard.wright@testamericainc.com
10/23/2009

These test results meet all the requirements of NELAC for accredited parameters.

The Lab Certification ID# is 100201.

All questions regarding this test report should be directed to the TestAmerica Project Manager whose signature appears on this report. All pages of this report are integral parts of the analytical data. Therefore, this report should be reproduced only in its entirety.

Reporting limits are adjusted for sample size used, dilutions and moisture content if applicable.

TestAmerica Laboratories, Inc.

TestAmerica Chicago 2417 Bond Street, University Park, IL 60484 Tel (708) 534-5200 Fax (708) 534-5211 www.testamericainc.com



Job Narrative 500-21700-1

Comments

No additional comments.

Receipt

All samples were received in good condition within temperature requirements.

CE / MS VOA

No analytical or quality issues were noted.

CE / MS Semi VOA

Method(s) 8270C: The ICV (Mix 1) that ran on inst. 1 on 10/09/09 at 18:57 had Nitrobenzene at 25.7% (high); Hexachlorocyclopentadiene at 30.5% (high) and 2,4,6-Trichlorophenol at 32.5% (high).BG-RW01-100609 (500-21700-1), BG-RW02-100609 (500-21700-2), BG-RW02-100609-D (500-21700-3), BG-SW01-100709 (500-21700-4), BG-SW02-100709 (500-21700-5)

No other analytical or quality issues were noted.

Met als

Method(s) 6020: The method blank for preparation batch 73329 contained Cd above the reporting limit (RL). All associated sample(s) that contained detects for this analyte at concentrations greater than 10X the value found in the method blank or were less than the RL were reported. All others were re-digested.

Method(s) 6020: The following samples were diluted due to the abundance of target analytes 500-21700-1, 4, 5. Elevated reporting limits (RLs) are provided.

No other analytical or quality issues were noted.

General Chemistry

No analytical or quality issues were noted.

Organic Prep

No analytical or quality issues were noted.

EXECUTIVE SUMMARY - Detections

Client: Weston Solutions, Inc.

Lab Sample ID Analyte	Client Sample ID	Result / Qu	alifier	Reporting Limit	Units	Method	
500-21700-1	BG-RW01-100609	18	54				13 100
pH		6.95	HF	0.200	SU	9040B	
Total Recoverable							
Barium		0.016		0.0025	ma/l	6020	
Cadmium		0.0011 7 +	•	0.0025	mg/L	6020	
Calcium		280		2.0	mg/L	6020	
		0.021	ь	0.0020	mg/L	6020	
Copper Lead		0.021	B B	0.0020	mg/L	6020	
		97	D	0.20	mg/L	6020	
Magnesium		0.0030		0.0025	mg/L	6020	
Manganese Nickel		0.0030	В	0.0025	mg/L	6020	
Potassium		1.5	D	0.50	mg/L	6020	
Sodium				0.20	mg/L		
Thallium		7.8 0.00054	В		mg/L	6020	
			J	0.0020	mg/L	6020	
Zinc		1.2	В	0.020	mg/L	6020	
			- 5				
500-21700-2	BG-RW02-100609						
	DO 111102 100000	7.04		0.000	011	00400	
pН		7.01	HF	0.200	SU	9040B	
Total Recoverable							
Arsenic		0.0014		0.0010	mg/L	6020	
Barium 🥡 🗀		0.016		0.0025	mg/L	6020	
Calcium		170		0.20	mg/L	6020	
Cobalt	1 1	0.00080	J	0.0010	mg/L	6020	
Copper		0.00005	-JB-	0.0020 U	mg/L	6020	
Iron		2.1		0.10	mg/L	6020	
Lead		0.00079	В	0.00050	mg/L	6020	
Magnesium		85	2.0	0.20	mg/L	6020	
Manganese		0.18		0.0025	mg/L	6020	
Nickel	5 2 100	0.0030	В	0.0020	mg/L	6020	
Potassium		1.4		0.50	mg/L	6020	
Sodium		6.6	В	0.20	mg/L	6020	
Zinc	0 2	0.60	В	0.020	mg/L	6020	

EXECUTIVE SUMMARY - Detections

Client: Weston Solutions, Inc.

Lab Sample ID Analyte	Client Sample ID	Result / Quali		eporting Limit	Units	Method
500-21700-3FD	BG-RW02-100609-D					
рН		7.09 H	HF	0.200	SU	9040B
Total Recoverable	WP *					
Arsenic		0.0014		0.0010	mg/L	6020
Barium		0.017		0.0025	mg/L	6020
Calcium		180		0.20	mg/L	6020
Cobalt			J	0.0010	mg/L	6020
Copper			, JB	0.0020	mg/L	6020
ron		2.2	, 6	0.10	mg/L	6020
Lead			В	0.00050	mg/L	6020
		88	•	0.00030		6020
Magnesium Manganese		0.18		0.20	mg/L	6020
Manganese Nickel			5		mg/L	
vickei Potassium			В	0.0020	mg/L	6020
		1.5 6.8 E		0.50 0.20	mg/L	6020 6020
Sodium			В		mg/L	
Zinc		0.62 E	В	0.020	mg/L	6020
500-21700-4	BG-SW01-100709			100		
Acetone		0.0071		0.0050	mg/L	8260B
		0.00039		0.0030	mg/L	7470A
Mercury oH			-IF	0.200	SU	9040B
		> 1111 127 .	Ter year			00.102
Total Recoverable		200		0.10		*
Aluminum		27		0.10	mg/L	6020
Antimony			J	0.010	mg/L	6020
Arsenic		0.22		0.020	mg/L	6020
Barium		0.18		0.0025	mg/L	6020
Beryllium		0.0041		0.0010	mg/L	6020
Cadmium			3	0.0025	mg/L	6020
Calcium		1300	. 1	4.0	mg/L	6020
Chromium			J	0.10	mg/L	6020
Cobalt		0.19		0.020	mg/L	6020
Copper			3	0.040	mg/L	6020
ron		230	1	2.0	mg/L	6020
_ead	11 (A)		3	0.010	mg/L	6020
Magnesium		250		1.0	mg/L	6020
/lagnesium		260		4.0	mg/L	6020
Manganese		7.1		0.050	mg/L	6020
Nickel			3	0.040	mg/L	6020
Potassium		23		0.50	mg/L	6020
Silver		0.0073		0.00050	mg/L	6020
Sodium			JB	1.0	mg/L	6020
Thallium	1060	0.0039		0.0020	mg/L	6020
/anadium			J	0.10	mg/L	6020
Zinc		130 E	3	2.0	mg/L	6020

EXECUTIVE SUMMARY - Detections

Client: Weston Solutions, Inc.

Lab Sample ID Analyte	Client Sample ID	Result / Qu	alifier	Reporting Limit	Units	Method
500-21700-5	BG-SW02-100709		nge skird	Jak N	Total Section 1	
рН		7.60	HF	0.200	SU	9040B
Total Recoverable						
Aluminum		0.025	J	0.10	mg/L	6020
Arsenic		0.00029	J	0.0010	mg/L	6020
Barium		0.022		0.0025	mg/L	6020
Cadmium		0.0012 _j1	TAT .	0.00050	mg/L	6020
Calcium		400		2.0	mg/L	6020
Cobalt		0.0011		0.0010	mg/L	6020
Copper		0.0037	В	0.0020	mg/L	6020
Iron		0.25		0.10	mg/L	6020
Lead		0.020	В	0.00050	mg/L	6020
Magnesium		- 64		0.20	mg/L	6020
Manganese		0.087		0.0025	mg/L	6020
Nickel		0.016	В	0.0020	mg/L	6020
Potassium		3.9		0.50	mg/L	6020
Sodium		7.4	В	0.20	mg/L	6020
Zinc		3.2	В	0.020	mg/L	6020

MET HOD SUMMARY

Client: Weston Solutions, Inc.

Job Number: 500-21700-1

Description	LabLocat ion	Met hod	Preparation Method
Matrix:Water			1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
Volatile Organic Compounds (GC/MS)	TAL CHI	SW846 8260B	
Purge and Trap	TAL CHI		SW846 5030B
Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)	TAL CHI	SW846 8270C	
Liquid-Liquid Extraction (Separatory Funnel)	TAL CHI		SW846 3510C
Metals (ICP/MS)	TAL CHI	SW846 6020	
Preparation, Total Recoverable or Dissolved Metals	TAL CHI		SW846 3005A
Mercury (CVAA)	TAL CHI	SW846 7470A	
Preparation, Mercury	TAL CHI		SW846 7470A
pH	TAL CHI	SW846 9040B	

LabRef erences:

TAL CHI = TestAmerica Chicago

Met hodReferences:

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

METHOD / ANALYST SUMMARY

Client: Weston Solutions, Inc.

Met h od	Analyst	Analyst i D
SW8 4 6 8 260B	Aikpala, Elaine	EA .
SW8 46 8 270C	Acakal, Duran	DA
SW8 4 6 6020	Kolarczyk, Paul F	PFK
SW846 7470A	Klee, George O	GOK
SW846 9040B	More, Colleen L	CLM

SAMPLE SUMMARY

Client: Weston Solutions, Inc.

Lab Sample ID	Client Sample ID	Client Matrix	Date/Time Sampled	Date/Time Received
500-21700-1	BG-RW01-100609	Water	10/06/2009 1700	10/09/2009 1445
500-21700-2	BG-RW02-100609	Water	10/06/2009 1750	10/09/2009 1445
500-21700-3FD	BG-RW02-100609-D	Water	10/06/2009 1755	10/09/2009 1445
500-21700-4	BG-SW01-100709	Water	10/07/2009 1500	10/09/2009 1445
500-21700-5	BG-SW02-100709	Water	10/07/2009 1545	10/09/2009 1445
500-21700-6TB	TRIP BLANK	Water	10/06/2009 0000	10/09/2009 1445

SAMPLE RESULTS

Job Number: 500-21700-1

Client Sample ID: BG-RW01-100609 Lab Sample ID: 500-21700-1 Date Sampled: 10/06/2009 1700 Date Received: 10/09/2009 1445

Analyte	Result/Qualifier	Unit	MDL	RL	Dilution
Method: 8260B		Date A	nalyzed: 10/14	/2009 0232	B
Prep Method: 5030B				/2009 0232	
Acetone	< 0.0050	mg/L	0.0021	0.0050	1.0
Benzene	<0.0010	mg/L	0.00015	0.0010	1.0
Bromodichloromethane	<0.0010	mg/L	0.00013	0.0010	1.0
Bromoform	<0.0010	mg/L	0.00030	0.0010	1.0
Bromomethane	<0.0010 UJ	mg/L	0.00045	0.0010	1.0
Carbon disulfide	<0.0050	mg/L	0.00066	0.0050	1.0
Carbon tetrachloride	<0.0010	mg/L	0.00032	0.0010	1.0
Chlorobenzene	<0.0010	mg/L	0.00017	0.0010	1.0
Chloroethane	<0.0010	mg/L	0.00036	0.0010	1.0
Chloroform	< 0.0010	mg/L	0.00015	0.0010	1.0
Chloromethane	<0.0010	mg/L	0.00014	0.0010	1.0
cis-1,2-Dichloroethene	<0.0010	mg/L	0.00015	0.0010	1.0
cis-1,3-Dichloropropene	<0.0010	mg/L	0.00016	0.0010	1.0
Dibromochloromethane	<0.0010	mg/L	0.00017	0.0010	1.0
1,1-Dichloroethane	<0.0010	mg/L	0.00012	0.0010	1.0
1,2-Dichloroethane	<0.0010	mg/L	0.00014	0.0010	1.0
1,1-Dichloroethene	<0.0010	mg/L	0.00023	0.0010	1.0
1,2-Dichloropropane	<0.0010	mg/L	0.00019	0.0010	1.0
1,3-Dichloropropene, Total	<0.0010	mg/L	0.00021	0.0010	1.0
Ethylbenzene	<0.0010	mg/L	0.00022	0.0010	1.0
2-Hexanone	<0.0050	mg/L	0.00077	0.0050	1.0
Methylene Chloride	<0.0020	mg/L	0.00052	0.0020	1.0
Methyl Ethyl Ketone	<0.0050	mg/L	0.0028	0.0050	1.0
methyl isobutyl ketone	<0.0050	mg/L	0.00077	0.0050	1.0
Methyl tert-butyl ether	< 0.0010	mg/L	0.00016	0.0010	1.0
Styrene	< 0.0010	mg/L	0.00017	0.0010	1.0
1,1,2,2-Tetrachloroethane	<0.0010	mg/L	0.00027	0.0010	1.0
Tetrachloroethene	<0.0010	mg/L	0.00020	0.0010	1.0
Toluene	<0.0010	mg/L	0.00017	0.0010	1.0
trans-1,2-Dichloroethene	<0.0010	mg/L	0.00018	0.0010	1.0
rans-1,3-Dichloropropene	<0.0010	mg/L	0.00021	0.0010	1.0
1,1,1-Trichloroethane	<0.0010	mg/L	0.00014	0.0010	1.0
1,1,2-Trichloroethane	<0.0010	mg/L	0.00022	0.0010	1.0
Trichloroethene	<0.0010	mg/L	0.00016	0.0010	1.0
Vinyl chloride	<0.0010	mg/L	0.00015	0.0010	1.0
Xylenes, Total	<0.0020	mg/L	0.00042	0.0020	1.0
Surrogate			Acc	eptance Limits	
4-Bromofluorobenzene (Surr)	89	%		77 - 120	

Client Sample ID: BG-RW01-100609 Lab Sample ID: 500-21700-1 Date Sampled: 10/06/2009 1700 Date Received: 10/09/2009 1445

Job Number: 500-21700-1

Analyte	4-1	Result/Qualifier	Unit	MDL	RL	Dilution
Surrogate			Tarini and	Acce	ptance Limits	
Dibromofluoromethane		110	%		79 - 133	
1,2-Dichloroethane-d4 (Surr)		110	%	52 %	72 - 135	
Toluene-d8 (Surr)		95	%		80 - 120	
				-d. 40/42/	2009 1616	
Method: 8270C			Date Analyze			
Prep Method: 3510C		40.00004	Date Prepare		2009 0803	4.0
Acenaphthene		<0.00094	mg/L	0.000055	0.00094	1.0
Acenaphthylene		<0.00094	mg/L	0.000055	0.00094	1.0
Anthracene		<0.00094	mg/L	0.000064	0.00094	1.0
Benzo[a]anthracene	to control	<0.00012	mg/L	0.000062	0.00012	1.0
Benzo[a]pyrene		<0.00019	mg/L	0.000042	0.00019	1.0
Benzo[b]fluoranthene		<0.00017	mg/L	0.000040	0.00017	1.0
Benzo[g,h,i]perylene		<0.00094	mg/L	0.00010	0.00094	1.0
Benzo[k]fluoranthene		<0.00016	mg/L	0.000075	0.00016	1.0
Bis(2-chloroethoxy)methane		<0.0019	mg/L	0.00013	0.0019	1.0
Bis(2-chloroethyl)ether		<0.0019	mg/L	0.00023	0.0019	1.0
Bis(2-ethylhexyl) phthalate		<0.0094	mg/L	0.0018	0.0094	1.0
4-Bromophenyl phenyl ether		<0.0047	mg/L	0.00015	0.0047	1.0
Butyl benzyl phthalate		<0.0019	mg/L	0.00019	0.0019	1.0
Carbazole		< 0.0047	mg/L	0.00077	0.0047	1.0
4-Chloroaniline		<0.0094	mg/L	0.00074	0.0094	1.0
4-Chloro-3-methylphenol		< 0.0094	mg/L	0.0023	0.0094	1.0
2-Chloronaphthalene		< 0.0019	mg/L	0.00016	0.0019	1.0
2-Chlorophenol		< 0.0047	mg/L	0.00020	0.0047	1.0
4-Chlorophenyl phenyl ether		<0.0047	mg/L	0.00023	0.0047	1.0
Chrysene		<0.00047	mg/L	0.000064	0.00047	1.0
Dibenz(a,h)anthracene		<0.00028	mg/L	0.000054	0.00028	1.0
Dibenzofuran		<0.0019	mg/L	0.00023	0.0019	1.0
1,2-Dichlorobenzene		< 0.0019	mg/L	0.00019	0.0019	1.0
1,3-Dichlorobenzene		<0.0019	mg/L	0.00020	0.0019	1.0
1,4-Dichlorobenzene		<0.0019	mg/L	0.00019	0.0019	1.0
3,3'-Dichlorobenzidine		<0.0047	mg/L	0.00024	0.0047	1.0
2,4-Dichlorophenol		<0.0094	mg/L	0.0030	0.0094	1.0
Diethyl phthalate	(20)	<0.0034	mg/L	0.00019	0.0019	1.0
2,4-Dimethylphenol		<0.0019	mg/L	0.00019	0.0019	1.0
Dimethyl phthalate		<0.0034	mg/L	0.0010	0.0034	1.0
Di-n-butyl phthalate		<0.0019	mg/L	0.00012	0.0019	1.0
		<0.019	_	0.0007	0.0047	1.0
4,6-Dinitro-2-methylphenol			mg/L	0.0017	0.019	1.0
2,4-Dinitrophenol		<0.019	mg/L			
2,4-Dinitrotoluene		<0.00094	mg/L	0.00042	0.00094	1.0

Client Sample ID: BG-RW01-100609 Lab Sample ID: 500-21700-1 Date Sampled: 10/06/2009 1700 Date Received: 10/09/2009 1445

Job Number: 500-21700-1

Analyte	Result/Qualifier	Unit	MDL	RL	Dilution
2,6-Dinitrotoluene	<0.00047	mg/L	0.00011	0.00047	1.0
Di-n-octyl phthalate	< 0.0094	mg/L	0.0016	0.0094	1.0
Fluoranthene	< 0.00094	mg/L	0.000064	0.00094	1.0
Fluorene	< 0.00094	mg/L	0.000054	0.00094	1.0
Hexachlorobenzene	< 0.00047	mg/L	0.000062	0.00047	1.0
Hexachlorobutadiene	< 0.0047	mg/L	0.00024	0.0047	1.0
Hexachlorocyclopentadiene	<0.019	mg/L	0.0042	0.019	1.0
Hexachloroethane	<0.0047	mg/L	0.00024	0.0047	1.0
Indeno[1,2,3-cd]pyrene	< 0.00019	mg/L	0.000068	0.00019	1.0
Isophorone	< 0.0019	mg/L	0.00055	0.0019	1.0
2-Methylnaphthalene	< 0.00047	mg/L	0.00015	0.00047	1.0
2-Methylphenol	< 0.0019	mg/L	0.00041	0.0019	1.0
3 & 4 Methylphenol	< 0.0019	mg/L	0.00018	0.0019	1.0
Naphthalene	< 0.00094	mg/L	0.000094	0.00094	1.0
2-Nitroaniline	< 0.0047	mg/L	0.00052	0.0047	1.0
3-Nitroaniline	< 0.0094	mg/L	0.00094	0.0094	1.0
4-Nitroaniline	< 0.0094	mg/L	0.0022	0.0094	1.0
Nitrobenzene	< 0.00094	mg/L	0.00028	0.00094	1.0
2-Nitrophenol	< 0.0094	mg/L	0.00060	0.0094	1.0
4-Nitrophenol	<0.019	mg/L	0.0023	0.019	1.0
N-Nitrosodi-n-propylamine	< 0.00047	mg/L	0.00014	0.00047	1.0
N-Nitrosodiphenylamine	< 0.00094	mg/L	0.00019	0.00094	1.0
2,2'-oxybis[1-chloropropane]	<0.0019	mg/L	0.00019	0.0019	1.0
Pentachlorophenol	<0.019	mg/L	0.0020	0.019	1.0
Phenanthrene	< 0.00094	mg/L	0.000067	0.00094	1.0
Phenol	< 0.0047	mg/L	0.0012	0.0047	1.0
Pyrene	< 0.00094	mg/L	0.000067	0.00094	1.0
1,2,4-Trichlorobenzene	< 0.0019	mg/L	0.00023	0.0019	1.0
2,4,5-Trichlorophenol	< 0.0094	mg/L	0.0025	0.0094	1.0
2,4,6-Trichlorophenol	<0.0047	mg/L	0.00063	0.0047	1.0
Surrogate			Acce	ptance Limits	
2-Fluorobiphenyl	73	%		37 - 120	
2-Fluorophenol	41	%		20 - 110	-6
Nitrobenzene-d5	68	%		42 - 120	
Phenol-d5	. 27	%		20 - 110	
Terphenyl-d14	84	%		39 - 120	
2,4,6-Tribromophenol	. 78	%	e i e i	41 - 122	
Method: Total Recoverable-6020 Prep Method: 3005A			•	2009 1419 2009 0730	
Aluminum	<0.10	mg/L	0.022	0.10	1.0

Client Sample ID: BG-RW01-100609 Lab Sample ID: 500-21700-1 Date Sampled: 10/06/2009 1700 Date Received: 10/09/2009 1445

Job Number: 500-21700-1

Analyte		4.	Result/Qua	lifier	Unit	MDL	RL	Dilution
Arsenic	Yan I ye va		<0.0010	,	mg/L	0.00015	0.0010	1.0
Barium			0.016		mg/L	0.00057	0.0025	1.0
Chromium	-01 (< 0.0050		mg/L	0.00084	0.0050	1.0
Copper			0.021	В	mg/L	0.00046	0.0020	1.0
Iron			<0.10		mg/L	0.024	0.10	1.0
Manganese			0.0030		mg/L	0.00028	0.0025	1.0
Nickel			0.0024	В =	mg/L	0.00024	0.0020	1.0
Potassium			1.5		mg/L	0.10	0.50	1.0
Selenium		2	< 0.0025		mg/L	0.00043	0.0025	1.0
Silver			< 0.00050		mg/L	0.000094	0.00050	1.0
Thallium			0.00054	j	mg/L	0.00030	0.0020	1.0
Vanadium			< 0.0050		mg/L	0.00061	0.0050	1.0
Zinc			1.2	В	mg/L	0.0066	0.020	1.0
Method: Total Re	coverable-6020)			Date An	alyzed: 10/12/2	2009 2009	
Prep Method: 300	5A				Date Pro	epared: 10/12/2	009 0730	
Beryllium			<0.0010		mg/L	0.00027	0.0010	1.0
Method: Total Re	coverable-6020)			Date An	alyzed: 10/14/2	2009 1400	
Prep Method: 300	5A				Date Pro	epared: 10/12/2	009 0730	
Antimony			< 0.0020		mg/L	0.00016	0.0020	1.0
Cobalt			< 0.0010		mg/L	0.000053	0.0010	1.0
Lead			0.027	В	mg/L	0.000050	0.00050	1.0
Magnesium			97		mg/L	0.024	0.20	1.0
Sodium			7.8	В	mg/L	0.024	0.20	1.0
Method: Total Re	coverable-6020)			Date An	alyzed: 10/19/2	2009 1941	
Prep Method: 300	5A				Date Pro	epared: 10/19/2	2009 0800	
Cadmium			0.0011 J	+	mg/L	0.00016	0.00050	1.0
Method: Total Re	coverable-6020)			Date An	alyzed: 10/20/2	2009 1713	
Prep Method: 300	5A				Date Pro	epared: 10/12/2	2009 0730	
Calcium			280		mg/L	0.71	2.0	10
Method: 7470A	6				Date An	alvzed: 10/13/2	2009 1358	
Prep Method: 7470)A				Date Pro	•	2009 0915	
Mercury			<0.00020		mg/L	0.000078	0.00020	1.0
Method: 9040B		j. linto			Date An	alvzed: 10/09/2	2009 1459	
pH			6.95	HF	SU	0.200	0.200	1.0
Will set of			0.00			0.200	0.200	Statistics

Job Number: 500-21700-1

Client Sample ID: BG-RW02-100609 Lab Sample ID: 500-21700-2 Date Sampled: 10/06/2009 1750 Date Received: 10/09/2009 1445

Analyte	Result/Qualifier	Unit	MDL	RL	Dilution
Method: 8260B		Date An	alyzed: 10/14/	2009 0253	
Prep Method: 5030B		Date Pro	epared: 10/14/	2009 0253	
Acetone	<0.0050	mg/L	0.0021	0.0050	1.0
Benzene	<0.0010	mg/L	0.00015	0.0010	1.0
Bromodichloromethane	<0.0010	mg/L	0.00013	0.0010	1.0
Bromoform	<0.0010	mg/L	0.00030	0.0010	1.0
Bromomethane	<0.0010 ひろ	mg/L	0.00045	0.0010	1.0
Carbon disulfide	<0.0050	mg/L	0.00066	0.0050	1.0
Carbon tetrachloride	<0.0010	mg/L	0.00032	0.0010	1.0
Chlorobenzene	<0.0010	mg/L	0.00017	0.0010	1.0
Chloroethane	<0.0010	mg/L	0.00036	0.0010	1.0
Chloroform	<0.0010	mg/L	0.00015	0.0010	1.0
Chloromethane	<0.0010	mg/L	0.00014	0.0010	1.0
cis-1,2-Dichloroethene	<0.0010	mg/L	0.00015	0.0010	1.0
cis-1,3-Dichloropropene	<0.0010 ,	mg/L	0.00016	0.0010	1.0
Dibromochloromethane	<0.0010	mg/L	0.00017	0.0010	1.0
1,1-Dichloroethane	<0.0010	mg/L	0.00012	0.0010	1.0
1,2-Dichloroethane	<0.0010	mg/L	0.00014	0.0010	1.0
1,1-Dichloroethene	<0.0010	mg/L	0.00023	0.0010	1.0
1,2-Dichloropropane	<0.0010	mg/L	0.00019	0.0010	1.0
1,3-Dichloropropene, Total	<0.0010	mg/L	0.00021	0.0010	1.0
Ethylbenzene	<0.0010	mg/L	0.00022	0.0010	1.0
2-Hexanone	<0.0050	mg/L	0.00077	0.0050	1.0
Methylene Chloride	<0.0020	mg/L	0.00052	0.0020	1.0
Methyl Ethyl Ketone	<0.0050	mg/L	0.0028	0.0050	1.0
methyl isobutyl ketone	<0.0050	mg/L	0.00077	0.0050	1.0
Methyl tert-butyl ether	<0.0010	mg/L	0.00016	0.0010	1.0
Styrene	<0.0010	mg/L	0.00017	0.0010	1.0
1,1,2,2-Tetrachloroethane	<0.0010	mg/L	0.00027	0.0010	1.0
Tetrachloroethene	<0.0010	mg/L	0.00020	0.0010	1.0
Toluene	<0.0010	mg/L	0.00017	0.0010	1.0
rans-1,2-Dichloroethene	<0.0010	mg/L	0.00018	0.0010	1.0
rans-1,3-Dichloropropene	<0.0010	mg/L	0.00021	0.0010	1.0
1,1,1-Trichloroethane	<0.0010	mg/L	0.00014	0.0010	1.0
1,1,2-Trichloroethane	<0.0010	mg/L	0.00022	0.0010	1.0
Trichloroethene	<0.0010	mg/L	0.00016	0.0010	1.0
Vinyl chloride	<0.0010	mg/L	0.00015	0.0010	1.0
Xylenes, Total	<0.0020	mg/L	0.00042	0.0020	1.0
Surrogate			Acce	eptance Limits	
4-Bromofluorobenzene (Surr)	88	%		77 - 120	

Job Number: 500-21700-1

Client Sample ID: BG-RW02-100609 Lab Sample ID: 500-21700-2 Date Sampled: 10/06/2009 1750 Date Received: 10/09/2009 1445

Analyte	1 NT ^	Result/Qualifier	Unit	MDL	RL	Dilution
Surrogate	; LIME O			Acce	eptance Limits	
Dibromofluoromethane		112	%	81 21	79 - 133	
1,2-Dichloroethane-d4 (Surr)		113	%		72 - 135	
Toluene-d8 (Surr)		95	%		80 - 120	
Method: 8270C			Date Analyz	red: 10/13/	2009 1639	
Prep Method: 3510C			Date Prepa		2009 1039	
Acenaphthene		<0.00093		0.000054	0.00093	1.0
Acenaphthylene		<0.00093	mg/L mg/L	0.000054	0.00093	1.0
Anthracene		<0.00093	mg/L	0.000054	0.00093	1.0
			- I			
Benzo[a]anthracene		<0.00012	mg/L	0.000062	0.00012	1.0
Benzo[a]pyrene		<0.00019	mg/L	0.000041	0.00019	1.0
Benzo[b]fluoranthene		<0.00017	mg/L	0.000039	0.00017	1.0
Benzo[g,h,i]perylene		<0.00093	mg/L	0.00010	0.00093	1.0
Benzo[k]fluoranthene		<0.00016	mg/L	0.000074	0.00016	1.0
Bis(2-chloroethoxy)methane		<0.0019	mg/L	0.00013	0.0019	1.0
Bis(2-chloroethyl)ether		<0.0019	mg/L	0.00022	0.0019	1.0
Bis(2-ethylhexyl) phthalate		<0.0093	mg/L	0.0018	0.0093	1.0
4-Bromophenyl phenyl ether		<0.0047	mg/L	0.00015	0.0047	1.0
Butyl benzyl phthalate		<0.0019	mg/L	0.00019	0.0019	1.0
Carbazole		< 0.0047	mg/L	0.00077	0.0047	1.0
4-Chloroaniline		<0.0093	mg/L	0.00073	0.0093	1.0
4-Chloro-3-methylphenol		<0.0093	mg/L	0.0022	0.0093	1.0
2-Chloronaphthalene		<0.0019	mg/L	0.00016	0.0019	1.0
2-Chlorophenol		<0.0047	mg/L	0.00020	0.0047	1.0
4-Chlorophenyl phenyl ether		< 0.0047	mg/L	0.00022	0.0047	1.0
Chrysene		< 0.00047	mg/L	0.000064	0.00047	1.0
Dibenz(a,h)anthracene		<0.00028	mg/L	0.000053	0.00028	1.0
Dibenzofuran		< 0.0019	mg/L	0.00022	0.0019	1.0
1.2-Dichlorobenzene		<0.0019	mg/L	0.00019	0.0019	1.0
1,3-Dichlorobenzene		<0.0019	mg/L	0.00020	0.0019	1.0
1,4-Dichlorobenzene		<0.0019	mg/L	0.00019	0.0019	1.0
3,3'-Dichlorobenzidine		<0.0047	mg/L	0.00023	0.0047	1.0
2,4-Dichlorophenol		<0.0093	mg/L	0.0030	0.0093	1.0
Diethyl phthalate		<0.0039	mg/L	0.00019	0.0019	1.0
2,4-Dimethylphenol		<0.0013	mg/L	0.00013	0.0093	1.0
						1.0
						1.0
						1.0
			-			1.0
-						1.0
Dimethyl phthalate Di-n-butyl phthalate 4,6-Dinitro-2-methylphenol 2,4-Dinitrophenol 2,4-Dinitrotoluene		<0.0019 <0.0047 <0.019 <0.019 <0.00093	mg/L mg/L mg/L mg/L mg/L	0.00012 0.00060 0.0017 0.0029 0.00042	0.0019 0.0047 0.019 0.019 0.00093	

Client Sample ID: BG-RW02-100609 Lab Sample ID: 500-21700-2 Date Sampled: 10/06/2009 1750 Date Received: 10/09/2009 1445

Job Number: 500-21700-1

Analyte	Result/Qualifier	Unit	MDL	RL	Dilution
2,6-Dinitrotoluene	<0.00047	mg/L	0.00011	0.00047	1.0
Di-n-octyl phthalate	< 0.0093	mg/L	0.0016	0.0093	1.0
Fluoranthene	<0.00093	mg/L	0.000064	0.00093	1.0
Fluorene	< 0.00093	mg/L	0.000053	0.00093	1.0
Hexachlorobenzene	< 0.00047	mg/L	0.000062	0.00047	1.0
Hexachlorobutadiene	<0.0047	mg/L	0.00023	0.0047	1.0
Hexachlorocyclopentadiene	<0.019	mg/L	0.0041	0.019	1.0
Hexachloroethane	< 0.0047	mg/L	0.00023	0.0047	1.0
Indeno[1,2,3-cd]pyrene	< 0.00019	mg/L	0.000067	0.00019	1.0
Isophorone	< 0.0019	mg/L	0.00054	0.0019	1.0
2-Methylnaphthalene	< 0.00047	mg/L	0.00015	0.00047	1.0
2-Methylphenol	< 0.0019	mg/L	0.00040	0.0019	1.0
3 & 4 Methylphenol	< 0.0019	mg/L	. 0.00018	0.0019	1.0
Naphthalene Naphthalene	<0.00093	mg/L	0.000093	0.00093	1.0
2-Nitroaniline	<0.0047	mg/L	0.00051	0.0047	1.0
3-Nitroaniline	< 0.0093	mg/L	0.00093	0.0093	1.0
4-Nitroaniline	< 0.0093	mg/L	0.0021	0.0093	1.0
Nitrobenzene	<0.00093	mg/L	0.00028	0.00093	1.0
2-Nitrophenol	<0.0093	mg/L	0.00060	0.0093	1.0
4-Nitrophenol	<0.019	mg/L	0.0022	0.019	1.0
N-Nitrosodi-n-propylamine	<0.00047	mg/L	0.00014	0.00047	1.0
N-Nitrosodiphenylamine	<0.00093	mg/L	0.00019	0.00093	1.0
2,2'-oxybis[1-chloropropane]	<0.0019	mg/L	0.00019	0.0019	1.0
Pentachlorophenol	<0.019	mg/L	0.0020	0.019	1.0
Phenanthrene	<0.00093	mg/L	0.000066	0.00093	1.0
Phenol ·	<0.0047	mg/L	0.0012	0.0047	1.0
Pyrene	<0.00093	mg/L	0.000066	0.00093	1.0
1,2,4-Trichlorobenzene	< 0.0019	mg/L	0.00022	0.0019	1.0
2,4,5-Trichlorophenol	<0.0093	mg/L	0.0024	0.0093	1.0
2,4,6-Trichlorophenol	<0.0047	mg/L	0.00063	0.0047	1.0
Surrogate	1000		Acce	ptance Limits	
2-Fluorobiphenyl	75	%		37 - 120	
2-Fluorophenol	41	%		20 - 110	
Nitrobenzene-d5	67	%		42 - 120	
Phenol-d5	27	%		20 - 110	
Terphenyl-d14	84	%		39 - 120	
2,4,6-Tribromophenol	78	%		41 - 122	nation and physics (19)
Method: Total Recoverable-6020		Date A		2009 1424	
Prep Method: 3005A		Date P	repared: 10/12/	2009 0730	
Aluminum	<0.10	mg/L	0.022	0.10	1.0

Job Number: 500-21700-1

Client Sample ID: BG-RW02-100609 Lab Sample ID: 500-21700-2 Date Sampled: 10/06/2009 1750 Date Received: 10/09/2009 1445

Analyte		Result/Quali	fier	Unit	MDL	RL	Dilution
Arsenic		0.0014	i k	mg/L	0.00015	0.0010	1.0
Barium		0.016		mg/L	0.00057	0.0025	1.0
Calcium		170		mg/L	0.071	0.20	1.0
Chromium		<0.0050		mg/L	0.00084	0.0050	1.0
Copper	0.00200	0.00095	JB-	mg/L	0.00046	0.0020	1.0
Iron	0.0 2 0	2.1		mg/L	0.024	0.10	1.0
Manganese		0.18		mg/L	0.00028	0.0025	1.0
Nickel		0.0030	В	mg/L	0.00024	0.0020	1.0
Potassium		1.4		mg/L	0.10	0.50	1.0
Selenium		<0.0025		mg/L	0.00043	0.0025	1.0
Silver		< 0.00050		mg/L	0.000094	0.00050	1.0
Thallium		<0.0020		mg/L	0.00030	0.0020	1.0
Vanadium		< 0.0050		mg/L	0.00061	0.0050	1.0
Zinc		0.60	: B	mg/L	0.0066	0.020	1.0
Method: Total Recoverable-6020				Date Analyze	ed: 10/12/200	0 2013	
Prep Method: 3005A				Date Prepare			
Beryllium		<0.0010		mg/L	0.00027	0.0010	1.0
the state of the s		-1000			1 40/44/000	0 4405	
Method: Total Recoverable-6020						9 1405	
Prep Method: 3005A		-0.0000		Date Prepare			40
Antimony		<0.0020	Э.	mg/L	0.00016	0.0020	1.0
Cadmium		<0.00050	1 2	mg/L	0.00016	0.00050	1.0
Cobalt		0.00080	J	mg/L	0.000053	0.0010	1.0
Lead		0.00079	В	mg/L	0.000050	0.00050	1.0
Magnesium		85		mg/L	0.024	0.20	1.0
Sodium		6.6	В	mg/L	0.024	0.20	1.0
Method: 7470A				Date Analyzo	ed: 10/13/200	9 1400	
Prep Method: 7470A				Date Prepare	ed: 10/13/200	9 0915	
Mercury		<0.00020		mg/L	0.000078	0.00020	1.0
Method: 9040B	111111 H			Date Analyze	ed: 10/09/200	9 1508	
pH		7.01	HF	SU	0.200	0.200	1.0

Client Sample ID: BG-RW02-100609-D

Lab Sample ID: 500-21700-3

Date Sampled: 10/06/2009 1755 Date Received: 10/09/2009 1445

Job Number: 500-21700-1

Analyte	Result/Qualifier	Unit	MDL	RL	Dilution
Method: 8260B		Date Ar	nalyzed: 10/14/	2009 0315	
Prep Method: 5030B		Date Pr		2009 0315	
Acetone	< 0.0050	mg/L	0.0021	0.0050	1.0
Benzene	<0.0010	mg/L	0.00015	0.0010	1.0
Bromodichloromethane	<0.0010	mg/L	0.00013	0.0010	1.0
Bromoform	<0.0010	mg/L	0.00030	0.0010	1.0
Bromomethane	<0.0010 ひゴ	mg/L	0.00045	0.0010	1.0
Carbon disulfide	<0.0050	mg/L	0.00066	0.0050	1.0
Carbon tetrachloride	<0.0010	mg/L	0.00032	0.0010	1.0
Chlorobenzene	<0.0010	mg/L	0.00017	0.0010	1.0
Chloroethane	<0.0010	mg/L	0.00036	0.0010	1.0
Chloroform	<0.0010	mg/L	0.00015	0.0010	1.0
Chloromethane	<0.0010	mg/L	0.00014	0.0010	1.0
cis-1,2-Dichloroethene	<0.0010	mg/L	0.00015	0.0010	1.0
cis-1,3-Dichloropropene	<0.0010	mg/L	0.00016	0.0010	1.0
Dibromochloromethane	<0.0010	mg/L	0.00017	0.0010	1.0
1,1-Dichloroethane	<0.0010	mg/L	0.00012	0.0010	1.0
1,2-Dichloroethane	<0.0010	mg/L	0.00014	0.0010	1.0
1,1-Dichloroethene	<0.0010	mg/L	0.00023	0.0010	1.0
1,2-Dichloropropane	<0.0010	mg/L	0.00019	0.0010	1.0
1,3-Dichloropropene, Total	<0.0010	mg/L	0.00021	0.0010	1.0
Ethylbenzene	<0.0010	mg/L	0.00022	0.0010	1.0
2-Hexanone	<0.0050	mg/L	0.00077	0.0050	1.0
Methylene Chloride	<0.0020	mg/L	0.00052	0.0020	1.0
Methyl Ethyl Ketone	<0.0050	mg/L	0.0028	0.0050	1.0
methyl isobutyl ketone	<0.0050	mg/L	0.00077	0.0050	1.0
Methyl tert-butyl ether	<0.0010	mg/L	0.00016	0.0010	1.0
Styrene	<0.0010	mg/L	0.00017	0.0010	1.0
1,1,2,2-Tetrachloroethane	<0.0010	mg/L	0.00027	0.0010	1.0
Tetrachloroethene	<0.0010	mg/L	0.00020	0.0010	1.0
Toluene	<0.0010	mg/L	0.00017	0.0010	1.0
trans-1,2-Dichloroethene	<0.0010	mg/L	0.00017	0.0010	1.0
trans-1,3-Dichloropropene	<0.0010	mg/L	0.00010	0.0010	1.0
1,1,1-Trichloroethane	<0.0010	mg/L	0.00014	0.0010	1.0
1,1,2-Trichloroethane	<0.0010	mg/L	0.00022	0.0010	1.0
Trichloroethene	<0.0010	mg/L	0.00022	0.0010	1.0
Vinyl chloride	<0.0010	mg/L	0.00015	0.0010	1.0
Xylenes, Total	<0.0020	mg/L	0.00042	0.0010	1.0
	70.0020	mg/L			1.0
Surrogate	e		Acce	ptance Limits	
4-Bromofluorobenzene (Surr)	89	%		77 - 120	

Client Sample ID: BG-RW02-100609-D Lab Sample ID: 500-21700-3

Date Sampled: 10/06/2009 1755 Date Received: 10/09/2009 1445

Job Number: 500-21700-1

Analyte	Result/Qualifier	Unit	MDL	RL	Dilution
Surrogate			Acce	ptance Limits	
Dibromofluoromethane	112	%		79 - 133	
1,2-Dichloroethane-d4 (Surr)	110	%		72 - 135	
Toluene-d8 (Surr)	95	%		80 - 120	
Method: 8270C	x 5	Date Analyze	d: 10/13/	2009 1702	
Prep Method: 3510C		Date Prepare		2009 0803	
Acenaphthene	< 0.00093	mg/L	0.000054	0.00093	1.0
Acenaphthylene	<0.00093	_	0.000054	0.00093	1.0
Anthracene	< 0.00093	mg/L	0.000064	0.00093	1.0
Benzo[a]anthracene	<0.00012		0.000062	0.00012	1.0
Benzo[a]pyrene	< 0.00019	mg/L	0.000041	0.00019	1.0
Benzo[b]fluoranthene	<0.00017		0.000039	0.00017	1.0
Benzo[g,h,i]perylene	<0.00093		0.00010	0.00093	1.0
Benzo[k]fluoranthene	<0.00016	mg/L	0.000074	0.00016	1.0
Bis(2-chloroethoxy)methane	< 0.0019	mg/L	0.00013	0.0019	1.0
Bis(2-chloroethyl)ether	<0.0019	mg/L	0.00022	0.0019	1.0
Bis(2-ethylhexyl) phthalate	<0.0093	mg/L	0.0018	0.0093	1.0
4-Bromophenyl phenyl ether	<0.0047	mg/L	0.00015	0.0047	1.0
Butyl benzyl phthalate	<0.0019	mg/L	0.00019	0.0019	1.0
Carbazole	<0.0047		0.00077	0.0047	1.0
4-Chloroaniline	<0.0093	mg/L	0.00073	0.0093	1.0
4-Chloro-3-methylphenol	<0.0093	mg/L	0.0022	0.0093	1.0
2-Chloronaphthalene	<0.0019	mg/L	0.00016	0.0019	1.0
2-Chlorophenol	<0.0047	mg/L	0.00020	0.0047	1.0
4-Chlorophenyl phenyl ether	<0.0047	mg/L	0.00022	0.0047	1.0
Chrysene	<0.00047	mg/L	0.000064	0.00047	1.0
Dibenz(a,h)anthracene	<0.00028	mg/L	0.000053	0.00028	1.0
Dibenzofuran	<0.0019	mg/L	0.00022	0.0019	1.0
1,2-Dichlorobenzene	<0.0019	mg/L	0.00019	0.0019	1.0
1,3-Dichlorobenzene	<0.0019	mg/L	0.00020	0.0019	1.0
1,4-Dichlorobenzene	<0.0019	mg/L	0.00019	0.0019	1.0
3,3'-Dichlorobenzidine	<0.0047	mg/L	0.00023	0.0047	1.0
2,4-Dichlorophenol	<0.0093	mg/L	0.0030	0.0093	1.0
Diethyl phthalate	<0.0019	mg/L	0.00019	0.0019	1.0
2,4-Dimethylphenol	< 0.0093	mg/L	0.0010	0.0093	1.0
Dimethyl phthalate	<0.0019	mg/L	0.00012	0.0019	1.0
Di-n-butyl phthalate	<0.0047		0.00060	0.0047	1.0
4,6-Dinitro-2-methylphenol	<0.019	mg/L	0.0017	0.019	1.0
2,4-Dinitrophenol	<0.019	mg/L	0.0029	0.019	1.0
2,4-Dinitrotoluene	<0.00093	mg/L	0.00042	0.00093	1.0

Client Sample ID: BG-RW02-100609-D Lab Sample ID: 500-21700-3

Date Sampled: 10/06/2009 1755 Date Received: 10/09/2009 1445

Job Number: 500-21700-1

Analyte	Result/Qualifier	Unit	MDL	RL	Dilution	
2,6-Dinitrotoluene	<0.00047	mg/L	0.00011	0.00047	1.0	
Di-n-octyl phthalate	< 0.0093	mg/L	0.0016	0.0093	1.0	
Fluoranthene	< 0.00093	mg/L	0.000064	0.00093	1.0	
Fluorene	< 0.00093	mg/L	0.000053	0.00093	1.0	
Hexachlorobenzene	< 0.00047	mg/L	0.000062	0.00047	1.0	
Hexachlorobutadiene	< 0.0047	mg/L	0.00023	0.0047	1.0	
Hexachlorocyclopentadiene	<0.019	mg/L	0.0041	0.019	1.0	
Hexachloroethane	< 0.0047	mg/L	0.00023	0.0047	1.0	
Indeno[1,2,3-cd]pyrene	< 0.00019	mg/L	0.000067	0.00019	1.0	
Isophorone	<0.0019	mg/L	0.00054	0.0019	1.0	
2-Methylnaphthalene	< 0.00047	mg/L	0.00015	0.00047	1.0	
2-Methylphenol	< 0.0019	mg/L	0.00040	0.0019	1.0	
3 & 4 Methylphenol	< 0.0019	mg/L	0.00018	0.0019	1.0	
Naphthalene	< 0.00093	mg/L	0.000093	0.00093	1.0	
2-Nitroaniline	< 0.0047	mg/L	0.00051	0.0047	1.0	
3-Nitroaniline	< 0.0093	mg/L	0.00093	0.0093	1.0	
4-Nitroaniline	< 0.0093	mg/L	0.0021	0.0093	1.0	
Nitrobenzene	< 0.00093	mg/L	0.00028	0.00093	1.0	
2-Nitrophenol	< 0.0093	mg/L	0.00060	0.0093	1.0	
4-Nitrophenol	< 0.019	mg/L	0.0022	0.019	1.0	
N-Nitrosodi-n-propylamine	<0.00047	mg/L	0.00014	0.00047	1.0	
N-Nitrosodiphenylamine	< 0.00093	mg/L	0.00019	0.00093	1.0	
2,2'-oxybis[1-chloropropane]	< 0.0019	mg/L	0.00019	0.0019	1.0	
Pentachlorophenol	< 0.019	mg/L	0.0020	0.019	1.0	
Phenanthrene	< 0.00093	mg/L	0.000066	0.00093	1.0	
Phenol	<0.0047	mg/L	0.0012	0.0047	1.0	
Pyrene	< 0.00093	mg/L	0.000066	0.00093	1.0	
1,2,4-Trichlorobenzene	<0.0019	mg/L	0.00022	0.0019	1.0	
2,4,5-Trichlorophenol	< 0.0093	mg/L	0.0024	0.0093	1.0	
2,4,6-Trichlorophenol	<0.0047	mg/L	0.00063	0.0047	1.0	
Surrogate		N. T. S.	Acce	Acceptance Limits		
2-Fluorobiphenyl	74	%		37 - 120		
2-Fluorophenol	41	%		20 - 110		
Nitrobenzene-d5	69	%		42 - 120		
Phenol-d5	26	%		20 - 110		
Terphenyl-d14	84	%		39 - 120		
2,4,6-Tribromophenol	76	%		41 - 122		
Method: Total Recoverable-6020		Date Ar	nalyzed: 10/12/	2009 1429		
Prep Method: 3005A		Date Pr	repared: 10/12/	2009 0730		
Aluminum	<0.10	mg/L	0.022	0.10	1.0	

 Client Sample ID:
 BG-RW02-100609-D
 Date Sampled:
 10/06/2009 1755

 Lab Sample ID:
 500-21700-3
 Date Received:
 10/09/2009 1445

Client Matrix: Water

Job Number: 500-21700-1

Analyte	Result/Qualifier	Unit	MDL	RL	Dilution
Arsenic	0.0014	mg/L	0.00015	0.0010	1.0
Barium	0.017	mg/L	0.00057	0.0025	1.0
Calcium	180	mg/L	0.071	0.20	1.0
Chromium	<0.0050	mg/L	0.00084	0.0050	1.0
Copper	0.0012 J B	mg/L	0.00046	0.0020	1.0
Iron	2.2	mg/L	0.024	0.10	1.0
Manganese	0.18	mg/L	0.00028	0.0025	1.0
Nickel	0.0029 B	mg/L	0.00024	0.0020	1.0
Potassium	1.5	mg/L	0.10	0.50	1.0
Selenium	< 0.0025	mg/L	0.00043	0.0025	1.0
Silver	< 0.00050	mg/L	0.000094	0.00050	1.0
Thallium	<0.0020	mg/L	0.00030	0.0020	1.0
Vanadium	<0.0050	mg/L	0.00061	0.0050	1.0
Zinc	0.62 B	mg/L	0.0066	0.020	1.0
Method: Total Recoverable-6020		Date Analy	zed: 10/12/2	2009 2017	
Prep Method: 3005A		Date Prepa	red: 10/12/2	2009 0730	
Beryllium	<0.0010	mg/L	0.00027	0.0010	1.0
Method: Total Recoverable-6020		Date Analy	zed: 10/14/	2009 1410	
Prep Method: 3005A		Date Prepa	red: 10/12/2	2009 0730	
Antimony	<0.0020	mg/L	0.00016	0.0020	1.0
Cadmium	<0.00050	mg/L	0.00016	0.00050	1.0
Cobalt	0.00079 J	mg/L	0.000053	0.0010	1.0
Lead	0.0016 B	mg/L	0.000050	0.00050	1.0
Magnesium	88	mg/L	0.024	0.20	1.0
Sodium	6.8 B	mg/L	0.024	0.20	1.0
Method: 7470A		Date Analy	zed: 10/13/	2009 1402	
Prep Method: 7470A		Date Prepa	red: 10/13/2	2009 0915	
Mercury	<0.00020	mg/L	0.000078	0.00020	1.0
Method: 9040B		Date Analy	zed: 10/09/	2009 1517	
pH	7.09 HF	SU	0.200	0.200	1.0

Job Number: 500-21700-1

Client Sample ID: BG-SW01-100709 Lab Sample ID: 500-21700-4 Date Sampled: 10/07/2009 1500 Date Received: 10/09/2009 1445

Analyte	Result/Qualifier	Unit	MDL	RL	Dilution
Method: 8260B		Date A	nalyzed: 10/14/	2009 0335	
Prep Method: 5030B				2009 0335	
Acetone	0.0071	mg/L	0.0021	0.0050	1.0
Benzene	<0.0010	mg/L	0.00015	0.0010	1.0
Bromodichloromethane	<0.0010	mg/L	0.00013	0.0010	1.0
Bromoform	<0.0010	mg/L	0.00030	0.0010	1.0
Bromomethane	<0.0010ひ	mg/L	0.00045	0.0010	1.0
Carbon disulfide	<0.0050	mg/L	0.00066	0.0050	1.0
Carbon tetrachloride	<0.0010	mg/L	0.00032	0.0010	1.0
Chlorobenzene	<0.0010	mg/L	0.00017	0.0010	1.0
Chloroethane	<0.0010	mg/L	0.00036	0.0010	1.0
Chloroform	<0.0010	mg/L	0.00015	0.0010	1.0
Chloromethane	<0.0010	mg/L	0.00014	0.0010	1.0
cis-1,2-Dichloroethene	<0.0010	mg/L	0.00015	0.0010	1.0
cis-1,3-Dichloropropene	<0.0010	mg/L	0.00016	0.0010	1.0
Dibromochloromethane	<0.0010	mg/L	0.00017	0.0010	1.0
1,1-Dichloroethane	<0.0010	mg/L	0.00012	0.0010	1.0
1,2-Dichloroethane	<0.0010	mg/L	0.00014	0.0010	1.0
1,1-Dichloroethene	<0.0010	mg/L	0.00023	0.0010	1.0
1,2-Dichloropropane	<0.0010	mg/L	0.00019	0.0010	1.0
1,3-Dichloropropene, Total	<0.0010	mg/L	0.00021	0.0010	1.0
Ethylbenzene	<0.0010	mg/L	0.00022	0.0010	1.0
2-Hexanone	<0.0050	mg/L	0.00077	0.0050	1.0
Methylene Chloride	<0.0020	mg/L	0.00052	0.0020	1.0
Methyl Ethyl Ketone	<0.0050	mg/L	0.0028	0.0050	1.0
methyl isobutyl ketone	<0.0050	· mg/L	0.00077	0.0050	1.0
Methyl tert-butyl ether	<0.0010	mg/L	0.00016	0.0010	1.0
Styrene	<0.0010	mg/L	0.00017	0.0010	1.0
1,1,2,2-Tetrachloroethane	<0.0010	mg/L	0.00027	0.0010	1.0
Tetrachloroethene	<0.0010	mg/L	0.00020	0.0010	1.0
Toluene	<0.0010	mg/L	0.00017	0.0010	1.0
trans-1,2-Dichloroethene	<0.0010	mg/L	0.00018	0.0010	1.0
trans-1,3-Dichloropropene	<0.0010	mg/L	0.00021	0.0010	1.0
1,1,1-Trichloroethane	<0.0010	mg/L	0.00014	0.0010	1.0
1,1,2-Trichloroethane	<0.0010	mg/L	0.00022	0.0010	1.0
Trichloroethene	<0.0010	mg/L	0.00016	0.0010	1.0
Vinyl chloride	<0.0010	mg/L	0.00015	0.0010	1.0
Xylenes, Total	<0.0020	mg/L	0.00042	0.0020	1.0
Surrogate	5 2 ₈		Acce	eptance Limits	
4-Bromofluorobenzene (Surr)	88	%		77 - 120	

Client Sample ID: BG-SW01-100709 Lab Sample ID: 500-21700-4 Date Sampled: 10/07/2009 1500
Date Received: 10/09/2009 1445

Job Number: 500-21700-1

Analyte	1.E	Result/Qualifier	Unit	MDL	RL	Dilution
Surrogate			months be	Acce	ptance Limits	1-3-3-10
Dibromofluoromethane		110	%	7006	79 - 133	
1,2-Dichloroethane-d4 (Surr)		111	%		79 - 135 72 - 135	
Toluene-d8 (Surr)	flettin Östini	95	%		80 - 120	
Toluene-do (Sult)		95			60 - 120	
Method: 8270C			Date Analyze		2009 1724	
Prep Method: 3510C			Date Prepare	ed: 10/12/	2009 0803	
Acenaphthene		< 0.00096	mg/L	0.000056	0.00096	1.0
Acenaphthylene		<0.00096	mg/L	0.000056	0.00096	1.0
Anthracene		< 0.00096	mg/L	0.000065	0.00096	1.0
Benzo[a]anthracene		< 0.00012	mg/L	0.000063	0.00012	1.0
Benzo[a]pyrene		< 0.00019	mg/L	0.000042	0.00019	1.0
Benzo[b]fluoranthene	rigian *	<0.00017	mg/L	0.000040	0.00017	1.0
Benzo[g,h,i]perylene		<0.00096	mg/L	0.00011	0.00096	1.0
Benzo[k]fluoranthene		<0.00016	mg/L	0.000076	0.00016	1.0
Bis(2-chloroethoxy)methane		< 0.0019	mg/L	0.00013	0.0019	1.0
Bis(2-chloroethyl)ether		< 0.0019	mg/L	0.00023	0.0019	1.0
Bis(2-ethylhexyl) phthalate		<0.0096	mg/L	0.0018	0.0096	1.0
4-Bromophenyl phenyl ether		<0.0048	mg/L	0.00015	0.0048	1.0
Butyl benzyl phthalate		< 0.0019	mg/L	0.00019	0.0019	1.0
Carbazole		<0.0048	mg/L	0.00079	0.0048	1.0
4-Chloroaniline		<0.0096	mg/L	0.00075	0.0096	1.0
4-Chloro-3-methylphenol		<0.0096	mg/L	0.0023	0.0096	1.0
2-Chloronaphthalene	24 G 1 G 8	<0.0019	mg/L	0.00016	0.0019	1.0
2-Chlorophenol		<0.0048	mg/L	0.00020	0.0048	1.0
4-Chlorophenyl phenyl ether		<0.0048	mg/L	0.00023	0.0048	1.0
Chrysene		<0.00048	mg/L	0.000065	0.00048	1.0
Dibenz(a,h)anthracene	ATTORNEY.	<0.00029	mg/L	0.000055	0.00029	1.0
Dibenzofuran		<0.0019	mg/L	0.00023	0.0019	1.0
1,2-Dichlorobenzene		<0.0019	mg/L	0.00019	0.0019	1.0
1,3-Dichlorobenzene		<0.0019	mg/L	0.00020	0.0019	1.0
1,4-Dichlorobenzene		<0.0019	mg/L	0.00019	0.0019	1.0
3,3'-Dichlorobenzidine		<0.0048	mg/L	0.00024	0.0048	1.0
2,4-Dichlorophenol		<0.0096	mg/L	0.0031	0.0096	1.0
Diethyl phthalate		<0.0019	mg/L	0.00019	0.0019	1.0
2,4-Dimethylphenol		<0.0096	mg/L	0.0011	0.0096	1.0
Dimethyl phthalate		<0.0019	mg/L	0.00012	0.0019	1.0
Di-n-butyl phthalate		<0.0048	mg/L	0.00062	0.0048	1.0
4,6-Dinitro-2-methylphenol		<0.019	mg/L	0.00002	0.019	1.0
2,4-Dinitrophenol		<0.019	mg/L	0.0030	0.019	1.0
2.4-Dinitrotoluene		<0.0096	mg/L	0.00043	0.00096	1.0

Client Sample ID: BG-SW01-100709 Lab Sample ID: 500-21700-4

Date Sampled: 10/07/2009 1500 Date Received: 10/09/2009 1445

Job Number: 500-21700-1

Analyte	Result/Qualifier	Unit	MDL	RL	Dilution
2,6-Dinitrotoluene	<0.00048	mg/L	0.00012	0.00048	1.0
Di-n-octyl phthalate	<0.0096	mg/L	0.0016	0.0096	1.0
Fluoranthene	< 0.00096	mg/L	0.000065	0.00096	1.0
Fluorene	< 0.00096	mg/L	0.000055	0.00096	1.0
Hexachlorobenzene	<0.00048	mg/L	0.000063	0.00048	1.0
Hexachlorobutadiene	<0.0048	mg/L	0.00024	0.0048	1.0
Hexachlorocyclopentadiene	<0.019	mg/L	0.0042	0.019	1.0
Hexachloroethane	<0.0048	mg/L	0.00024	0.0048	1.0
Indeno[1,2,3-cd]pyrene	< 0.00019	mg/L	0.000069	0.00019	1.0
Isophorone	< 0.0019	mg/L	0.00056	0.0019	1.0
2-Methylnaphthalene	< 0.00048	mg/L	0.00015	0.00048	1.0
2-Methylphenol	< 0.0019	mg/L	0.00041	0.0019	1.0
3 & 4 Methylphenol	< 0.0019	mg/L	0.00018	0.0019	1.0
Naphthalene	< 0.00096	mg/L	0.000096	0.00096	1.0
2-Nitroaniline	<0.0048	mg/L	0.00053	0.0048	1.0
3-Nitroaniline	<0.0096	mg/L	0.00096	0.0096	1.0
4-Nitroaniline	<0.0096	mg/L	0.0022	0.0096	1.0
Nitrobenzene	< 0.00096	mg/L	0.00029	0.00096	1.0
2-Nitrophenol	<0.0096	mg/L	0.00062	0.0096	1.0
4-Nitrophenol	<0.019	mg/L	0.0023	0.019	1.0
N-Nitrosodi-n-propylamine	<0.00048	mg/L	0.00014	0.00048	1.0
N-Nitrosodiphenylamine	<0.00096	mg/L	0.00019	0.00096	1.0
2,2'-oxybis[1-chloropropane]	<0.0019	mg/L	0.00019	0.0019	1.0
Pentachlorophenol	<0.019	mg/L	0.0020	0.019	1.0
Phenanthrene	<0.00096	mg/L	0.000068	0.00096	1.0
Phenol	<0.0048	mg/L	0.0012	0.0048	1.0
Pyrene	<0.00096	mg/L	0.000068	0.00096	1.0
1,2,4-Trichlorobenzene	<0.0019	mg/L	0.00023	0.0019	1.0
2,4,5-Trichlorophenol	<0.0096	mg/L	0.0025	0.0096	1.0
2,4,6-Trichlorophenol	<0.0048	mg/L	0.00064	0.0048	1.0
Surrogate	. 1		Acce	ptance Limits	
2-Fluorobiphenyl	65	%		37 - 120	
2-Fluorophenol	37	%		20 - 110	
Nitrobenzene-d5	58	%		42 - 120	
Phenol-d5	25	%		20 - 110	
Terphenyl-d14	67	%		39 - 120	
2,4,6-Tribromophenol	73	%		41 - 122	
Method: Total Recoverable-6020 Prep Method: 3005A			•	2009 1434 2009 0730	
Aluminum	27	mg/L	0.022	0.10	1.0

Client Sample ID: BG-SW01-100709 Lab Sample ID: 500-21700-4 Date Sampled: 10/07/2009 1500 Date Received: 10/09/2009 1445

Job Number: 500-21700-1

Analyte		Result/Qua	lifier	Unit	MDL	RL	Dilution
Barium	J. 3 9	0.18	2.5	mg/L	0.00057	0.0025	1.0
Potassium	124.11	23		mg/L	0.10	0.50	1.0
Silver		0.0073		mg/L	0.000094	0.00050	1.0
Thallium		0.0039		mg/L	0.00030	0.0020	1.0
Method: Total Recoverab	le-6020	4		Date A	nalyzed: 10/12/	2009 2021	
Prep Method: 3005A	711,7000 1					2009 0730	
Beryllium		0.0041		mg/L	0.00027	0.0010	1.0
Method: Total Recoverab	le-6020			Date A	nalyzed: 10/14/	2009 1415	2 - 4
Prep Method: 3005A			92		-	2009 0730	
Antimony		0.0045	J	mg/L	0.00080	0.010	5.0
Cadmium		0.39	В	mg/L	0.00080	0.0025	5.0
Magnesium		250		mg/L	0.12	1.0	5.0
Sodium	Part Control	0.96	JB	mg/L	0.12	1.0	5.0
Method: Total Recoverab	le-6020			Date A	nalyzed: 10/14/	2009 1420	
Prep Method: 3005A	_ frameril					2009 0730	
Arsenic		0.22		mg/L	0.0030	0.020	20
Calcium	7 7 7 10	1300		mg/L	1.4	4.0	20
Chromium		0.047	J	mg/L	0.017	0.10	20
Cobalt	27 8	0.19	- 0	mg/L	0.0011	0.020	20
Copper		0.40	В	mg/L	0.0092	0.040	20
Iron		230	_	mg/L	0.48	2.0	20
Lead	· Sugar	63	В	mg/L	0.0010	0.010	20
Magnesium		260		mg/L	0.49	4.0	20
Manganese		7.1		mg/L	0.0056	0.050	20
Nickel		0.37	В	mg/L	0.0048	0.040	20
Selenium		< 0.050		mg/L	0.0086	0.050	20
Vanadium		0.029	J	mg/L	0.012	0.10	20
Method: Total Recoverab Prep Method: 3005A	le-6020				•	2009 1718 2009 0730	
Zinc		130	В	mg/L	0.66	2.0	100
Method: 7470A				Date A	nalyzed: 10/13/	2009 1404	
Prep Method: 7470A					-	2009 0915	
Mercury		0.00039		mg/L	0.000078	0.00020	1.0
Method: 9040B	i ir ibary.	(*) J. (1)		Date A	nalyzed: 10/09/	2009 1526	
pH		7.27	HF	SU	0.200	0.200	1.0
				1.0			

Job Number: 500-21700-1

Client Sample ID: BG-SW02-100709 Lab Sample ID: 500-21700-5 Date Sampled: 10/07/2009 1545
Date Received: 10/09/2009 1445

Analyte	Result/Qualifier	Unit	MDL	RL	Dilution
Method: 8260B	The state of the s	Date A	nalyzed: 10/14/	2009 0357	
Prep Method: 5030B		Date Pr	epared: 10/14/	2009 0357	
Acetone	< 0.0050	mg/L	0.0021	0.0050	1.0
Benzene	< 0.0010	mg/L	0.00015	0.0010	1.0
Bromodichloromethane	<0.0010	mg/L	0.00013	0.0010	1.0
Bromoform	<0.0010	mg/L	0.00030	0.0010	1.0
Bromomethane	<0.0010 VJ	mg/L	0.00045	0.0010	1.0
Carbon disulfide	<0.0050	mg/L	0.00066	0.0050	1.0
Carbon tetrachloride	<0.0010	mg/L	0.00032	0.0010	1.0
Chlorobenzene	<0.0010	mg/L	0.00017	0.0010	1.0
Chloroethane	< 0.0010	mg/L	0.00036	0.0010	1.0
Chloroform	<0.0010	mg/L	0.00015	0.0010	1.0
Chloromethane	<0.0010	mg/L	0.00014	0.0010	1.0
cis-1,2-Dichloroethene	<0.0010	mg/L	0.00015	0.0010	1.0
cis-1,3-Dichloropropene	<0.0010	mg/L	0.00016	0.0010	1.0
Dibromochloromethane	<0.0010	mg/L	0.00017	0.0010	1.0
1,1-Dichloroethane	<0.0010	mg/L	0.00012	0.0010	1.0
1,2-Dichloroethane	<0.0010	mg/L	0.00014	0.0010	1.0
1,1-Dichloroethene	<0.0010	mg/L	0.00023	0.0010	1.0
1,2-Dichloropropane	<0.0010	mg/L	0.00019	0.0010	1.0
1,3-Dichloropropene, Total	<0.0010	mg/L	0.00021	0.0010	1.0
Ethylbenzene	<0.0010	mg/L	0.00022	0.0010	1.0
2-Hexanone	<0.0050	mg/L	0.00077	0.0050	1.0
Methylene Chloride	<0.0020	mg/L	0.00052	0.0020	1.0
Methyl Ethyl Ketone	<0.0050	mg/L	0.0028	0.0050	1.0
methyl isobutyl ketone	<0.0050	mg/L	0.00077	0.0050	1.0
Methyl tert-butyl ether	<0.0010	mg/L	0.00016	0.0010	1.0
Styrene	<0.0010	mg/L	0.00017	0.0010	1.0
1,1,2,2-Tetrachloroethane	<0.0010	mg/L	0.00027	0.0010	1.0
Tetrachloroethene	<0.0010	mg/L	0.00020	0.0010	1.0
Toluene	<0.0010	mg/L	0.00017	0.0010	1.0
trans-1,2-Dichloroethene	<0.0010	mg/L	0.00018	0.0010	1.0
trans-1,3-Dichloropropene	<0.0010	mg/L	0.00021	0.0010	1.0
1,1,1-Trichloroethane	<0.0010	mg/L	0.00014	0.0010	1.0
1,1,2-Trichloroethane	<0.0010	mg/L	0.00022	0.0010	1.0
Trichloroethene	<0.0010	mg/L	0.00016	0.0010	1.0
Vinyl chloride	<0.0010	mg/L	0.00015	0.0010	1.0
Xylenes, Total	<0.0020	mg/L	0.00042	0.0020	1.0
Surrogate				eptance Limits	
4-Bromofluorobenzene (Surr)	88	%	Acce	77 - 120	

Client Sample ID: BG-SW02-100709 Lab Sample ID: 500-21700-5 Date Sampled: 10/07/2009 1545
Date Received: 10/09/2009 1445

Job Number: 500-21700-1

Anthracene <0.0010 mg/L 0.000070 0.0 Benzo[a]anthracene <0.00013 mg/L 0.000068 0.0 Benzo[a]pyrene <0.00021 mg/L 0.000045 0.0 Benzo[b]fluoranthene <0.00019 mg/L 0.000043 0.0 Benzo[g,h,i]perylene <0.0010 mg/L 0.00011 0.0 Benzo[k]fluoranthene <0.00018 mg/L 0.000081 0.0 Bis(2-chloroethoxy)methane <0.0021 mg/L 0.00014 0.0 Bis(2-chloroethyl)ether <0.0021 mg/L 0.00025 0.0 Bis(2-ethylhexyl) phthalate <0.010 mg/L 0.0020 0.0 4-Bromophenyl phenyl ether <0.0052 mg/L 0.00016 0.0 Butyl benzyl phthalate <0.0021 mg/L 0.00021 0.0 Carbazole <0.0052 mg/L 0.00085 0.0 4-Chloroaniline <0.010 mg/L 0.00080 0.0	133 135 120 1747 0803
Dibromofluoromethane 110 % 79 - 1 1,2-Dichloroethane-d4 (Surr) 113 % 72 - 1 Toluene-d8 (Surr) 95 % 80 - 1 Method: 8270C Date Analyzed: 10/13/2009 One Prep Method: 3510C Date Prepared: 10/12/2009 One	133 135 120 1747 0803
1,2-Dichloroethane-d4 (Surr) 113 % 72 - 1 Toluene-d8 (Surr) 95 % 80 - 1 Method: 8270C Date Analyzed: 10/13/2009 (Date Prepared: 10/12/2009 (D	135 120 1747 0803
Method: 8270C Date Analyzed: 10/13/2009 Prep Method: 3510C Date Prepared: 10/12/2009 Co.00060 0.0 Acenaphthylene <0.0010	120 1747 0803
Method: 8270C Date Analyzed: 10/13/2009 Prep Method: 3510C Date Prepared: 10/12/2009 Compared: 10/12/2009 10/12/2009 10/12/2009 10/12/2009 10/12/2009 10/12/2009 10/12/2009 10/12/2009 10/12/2009 10/12/2009 10/12/2009 10/12/2009 10/12/2009 10/12/2009 10/12/2009 10/12/2009	1747 0803
Prep Method: 3510C Date Prepared: 10/12/2009 (2000) Acenaphthene <0.0010	0803
Acenaphthene <0.0010	
Acenaphthylene <0.0010	1040 40
Anthracene <0.0010	
Benzo[a]anthracene <0.00013	0010 1.0
Benzo[a]pyrene <0.00021	0010 1.0
Benzo[b]fluoranthene <0.00019	00013 1.0
Benzo[g,h,i]perylene <0.0010	00021 1.0
Benzo[kifluoranthene <0.00018	00019 1.0
Bis(2-chloroethoxy)methane <0.0021	0010 1.0
Bis(2-chloroethyl)ether <0.0021	00018 1.0
Bis(2-ethylhexyl) phthalate <0.010	0021 1.0
4-Bromophenyl phenyl ether <0.0052	0021 1.0
Butyl benzyl phthalate <0.0021	010 1.0
Carbazole <0.0052 mg/L 0.00085 0.0 4-Chloroaniline <0.010	0052 1.0
4-Chloroaniline <0.010 mg/L 0.00080 0.0	0021 1.0
	0052 1.0
	010 1.0
	010 1.0
2-Chloronaphthalene <0.0021 mg/L 0.00018 0.0	0021 1.0
	0052 1.0
	0052 1.0
	00052 1.0
	00031 1.0
	0021 1.0
	0021 1.0
	0021 1.0
	0021 1.0
	0052 1.0
	010 1.0
	0021 1.0
	010 1.0
	0021 1.0
	0052 1.0
	0032 1.0 021 1.0
	021 1.0 021 1.0
2,4-Dinitrophenol <0.021	

Client Sample ID: BG-SW02-100709 Lab Sample ID: 500-21700-5 Date Sampled: 10/07/2009 1545 Date Received: 10/09/2009 1445

Job Number: 500-21700-1

Analyte	Result/Qualif	er Unit	MDL	RL	Dilution
2,6-Dinitrotoluene	<0.00052	mg/L	0.00012	0.00052	1.0
Di-n-octyl phthalate	<0.010	mg/L	0.0018	0.010	1.0
Fluoranthene	< 0.0010	mg/L	0.000070	0.0010	1.0
Fluorene	< 0.0010	mg/L	0.000059	0.0010	1.0
Hexachlorobenzene	< 0.00052	mg/L	0.000068	0.00052	1.0
Hexachlorobutadiene	< 0.0052	mg/L	0.00026	0.0052	1.0
Hexachlorocyclopentadiene	<0.021	mg/L	0.0045	0.021	1.0
Hexachloroethane	< 0.0052	mg/L	0.00026	0.0052	1.0
Indeno[1,2,3-cd]pyrene	< 0.00021	mg/L	0.000074	0.00021	1.0
Isophorone	<0.0021	mg/L	0.00060	0.0021	1.0
2-Methylnaphthalene	< 0.00052	mg/L	0.00016	0.00052	1.0
2-Methylphenol	<0.0021	mg/L	0.00044	0.0021	1.0
3 & 4 Methylphenol	< 0.0021	mg/L	0.00020	0.0021	1.0
Naphthalene	<0.0010	mg/L	0.00010	0.0010	1.0
2-Nitroaniline	< 0.0052	mg/L	0.00057	0.0052	1.0
3-Nitroaniline	< 0.010	mg/L	0.0010	0.010	1.0
4-Nitroaniline	<0.010	mg/L	0.0024	0.010	1.0
Nitrobenzene	< 0.0010	mg/L	0.00031	0.0010	1.0
2-Nitrophenol	< 0.010	mg/L	0.00066	0.010	1.0
4-Nitrophenol	<0.021	mg/L	0.0025	0.021	1.0
N-Nitrosodi-n-propylamine	< 0.00052	mg/L	0.00015	0.00052	1.0
N-Nitrosodiphenylamine	<0.0010	mg/L	0.00021	0.0010	1.0
2,2'-oxybis[1-chloropropane]	< 0.0021	mg/L	0.00021	0.0021	1.0
Pentachlorophenol	<0.021	mg/L	0.0022	0.021	1.0
Phenanthrene	< 0.0010	mg/L	0.000073	0.0010	1.0
Phenol	< 0.0052	mg/L	0.0013	0.0052	1.0
Pyrene	< 0.0010	mg/L	0.000073	0.0010	1.0
1,2,4-Trichlorobenzene	< 0.0021	mg/L	0.00025	0.0021	1.0
2,4,5-Trichlorophenol	<0.010	mg/L	0.0027	0.010	1.0
2,4,6-Trichlorophenol	<0.0052	mg/L	0.00069	0.0052	1.0
Surrogate			Acce	ptance Limits	
2-Fluorobiphenyl	55	%		37 - 120	
2-Fluorophenol	32	%		20 - 110	
Nitrobenzene-d5	50	%		42 - 120	
Phenol-d5	22	%		20 - 110	
Terphenyl-d14	65	%		39 - 120	
2,4,6-Tribromophenol	62	%		41 - 122	
Method: Total Recoverable-6020		Date A	nalyzed: 10/12/	2009 1439	
Prep Method: 3005A				2009 0730	
Aluminum	0.025	J mg/L	0.022	0.10	1.0

Lab Sample ID:

Client Sample ID: BG-SW02-100709

500-21700-5

Date Sampled: 10/07/2009 1545 Date Received: 10/09/2009 1445

Job Number: 500-21700-1

Analyte	Result/Qualifier	Unit	MDL	RL	Dilution
Arsenic	0.00029 J	mg/L	0.00015	0.0010	1.0
Barium	0.022	mg/L	0.00057	0.0025	1.0
Chromium	<0.0050	mg/L	0.00084	0.0050	1.0
Copper	0.0037 B	mg/L	0.00046	0.0020	1.0
Iron	0.25	mg/L	0.024	0.10	1.0
Manganese	0.087	mg/L ·	0.00028	0.0025	1.0
Nickel	0.016 B	mg/L	0.00024	0.0020	1.0
Potassium	3.9	mg/L	0.10	0.50	1.0
Selenium	<0.0025	mg/L	0.00043	0.0025	1.0
Silver	<0.00050	mg/L	0.000094	0.00050	1.0
Thallium	<0.0020	mg/L	0.00030	0.0020	1.0
Vanadium	<0.0050	mg/L	0.00061	0.0050	1.0
Zinc	3.2 B	mg/L	0.0066	0.020	1.0
Method: Total Recoverable-6020		Date An	alyzed: 10/12/2	2009 2025	
Prep Method: 3005A		Date Pr	epared: 10/12/2	2009 0730	
Beryllium	<0.0010	mg/L	0.00027	0.0010	1.0
Method: Total Recoverable-6020	Mi .	Date An	nalvzed: 10/14/2	2009 1425	
Prep Method: 3005A		Date Pr		2009 0730	
Antimony	<0.0020	mg/L	0.00016	0.0020	1.0
Cobalt	0.0011	mg/L	0.000053	0.0010	1.0
Lead	0.020 B	mg/L	0.000050	0.00050	1.0
Magnesium	64	mg/L	0.024	0.20	1.0
Sodium	7.4 B	mg/L	0.024	0.20	1.0
Method: Total Recoverable-6020		Date An	nalvzed: 10/19/2	2009 1946	
Prep Method: 3005A	- III	Date Pr	•	2009 0800	
Cadmium	0.0012 J+	mg/L	0.00016	0.00050	1.0
Method: Total Recoverable-6020		Date An	alyzed: 10/20/2	2009 1722	
Prep Method: 3005A		Date Pr	•	2009 0730	
Calcium	400	mg/L	0.71	2.0	10
Method: 7470A		Date Ar	nalyzed: 10/13/2	2009 1406	
Prep Method: 7479A		Date Pr	epared: 10/13/2	2009 0915	
Mercury	<0.00020	mg/L	0.000078	0.00020	1.0
Method: 9040B		Date Ar	nalyzed: 10/09/2	2009 1535	
pH	7.60 HF	SU	0.200	0.200	1.0

Client Sample ID: TRIP BLANK Lab Sample ID: 500-21700-6

Date Sampled: 10/06/2009 0000 Date Received: 10/09/2009 1445

Job Number: 500-21700-1

Analyte	Result/Qualifier	Unit	MDL	RL	Dilution
Method: 8260B		Date A	nalyzed: 10/14/	2009 0418	
Prep Method: 5030B			•	2009 0418	C TIME II
Acetone	<0.0050	mg/L	0.0021	0.0050	1.0
Benzene	<0.0010	mg/L	0.00015	0.0010	1.0
Bromodichloromethane	<0.0010	mg/L	0.00013	0.0010	1.0
Bromoform	<0.0010	mg/L	0.00030	0.0010	1.0
Bromomethane	<0.0010 UJ	mg/L	0.00045	0.0010	1.0
Carbon disulfide	< 0.0050	mg/L	0.00066	0.0050	1.0
Carbon tetrachloride	< 0.0010	mg/L	0.00032	0.0010	1.0
Chlorobenzene	< 0.0010	mg/L	0.00017	0.0010	1.0
Chloroethane	<0.0010	mg/L	0.00036	0.0010	1.0
Chloroform	< 0.0010	mg/L	0.00015	0.0010	1.0
Chloromethane	<0.0010	mg/L	0.00014	0.0010	1.0
cis-1,2-Dichloroethene	<0.0010	mg/L	0.00015	0.0010	1.0
cis-1,3-Dichloropropene	<0.0010	mg/L	0.00016	0.0010	1.0
Dibromochloromethane	<0.0010	mg/L	0.00017	0.0010	1.0
1,1-Dichloroethane	<0.0010	mg/L	0.00012	0.0010	1.0
1,2-Dichloroethane	<0.0010	mg/L	0.00014	0.0010	1.0
1,1-Dichloroethene	<0.0010	mg/L	0.00023	0.0010	1.0
1,2-Dichloropropane	<0.0010	mg/L	0.00019	0.0010	1.0
1,3-Dichloropropene, Total	<0.0010	mg/L	0.00021	0.0010	1.0
Ethylbenzene	<0.0010	mg/L	0.00022	0.0010	1.0
2-Hexanone	< 0.0050	mg/L	0.00077	0.0050	1.0
Methylene Chloride	<0.0020	mg/L	0.00052	0.0020	1.0
Methyl Ethyl Ketone	< 0.0050	mg/L	0.0028	0.0050	1.0
methyl isobutyl ketone	<0.0050	mg/L	0.00077	0.0050	1.0
Methyl tert-butyl ether	<0.0010	mg/L	0.00016	0.0010	1.0
Styrene	<0.0010	mg/L	0.00017	0.0010	1.0
1,1,2,2-Tetrachloroethane	<0.0010	mg/L	0.00027	0.0010	1.0
Tetrachloroethene	<0.0010	mg/L	0.00020	0.0010	1.0
Toluene	<0.0010	mg/L	0.00017	0.0010	1.0
trans-1,2-Dichloroethene	<0.0010	mg/L	0.00018	0.0010	1.0
trans-1,3-Dichloropropene	<0.0010	mg/L	0.00021	0.0010	1.0
1,1,1-Trichloroethane	<0.0010	mg/L	0.00014	0.0010	1.0
1,1,2-Trichloroethane	<0.0010	mg/L	0.00022	0.0010	1.0
Trichloroethene	<0.0010	mg/L	0.00016	0.0010	1.0
Vinyl chloride	<0.0010	mg/L	0.00015	0.0010	1.0
Xylenes, Total	<0.0020	mg/L	0.00042	0.0020	1.0
Surrogate			Acce	eptance Limits	
4-Bromofluorobenzene (Surr)	89	%	-	77 - 120	

Job Number: 500-21700-1

Client Sample ID: TRIP BLANK Lab Sample ID: 500-21700-6

Date Sampled: 10/06/2009 0000 Date Received: 10/09/2009 1445

Analyte	Result/Qualifier	Uni	MDL	RL	Dilution
Surrogate				Acceptance Limits	
Dibromofluoromethane	-111	%		79 - 133	
1,2-Dichloroethane-d4 (Surr)	111	%		72 - 135	
Toluene-d8 (Surr)	95	%		80 - 120	

DATA REPORTING QUALIFIERS

Client: Weston Solutions, Inc.

Job Number: 500-21700-1

Lab Section	Qualifier	Description
Metals		The second secon
	В	Compound was f ound in the blankand sample.
intend in the	J (1)	Result is less than the RL but greater than or equal to the MDL and the concentration is an approx imate v alue.
General Chemistry	Market Comments	
	HF	Field parameter with a holding time of 15 minutes

BAUTSCH GRAY MINE SITE GALENA, ILLINOIS DATA VALIDATION REPORT

Date: August 9, 2010

Laboratory: STAT Analysis Corporation, Chicago, Illinois

Laboratory Project #: 10080080

Data Validation Performed By: Lisa Graczyk, Weston Solutions, Inc. (WESTON®) Superfund

Technical Assessment and Response Team (START)

Weston Analytical TDD/Work Order #: S05-0001-0909-012/20405.016.001.0768.00

This data validation report has been prepared by WESTON START under the START III Region V contract. This report documents the data validation for two water samples (includes one field duplicate sample) collected for the Bautsch Gray Mine Site that were analyzed for the following parameters and methods:

• Total Metals (Arsenic, Cadmium, and Lead) by United States Environmental Protection Agency (U.S. EPA) SW-846 Method 6020

A level II data package was requested from STAT. The data validation was conducted in general accordance with the U.S. EPA "Contract Laboratory Program National Functional Guidelines for Inorganic Superfund Data Review" dated January 2010. The Attachment contains the results summary sheets.

TOTAL METALS (ARSENIC, CADMIUM, AND LEAD) BY SW-846 METHOD 6020

1. Samples

The following table summarizes the samples for which this data validation is being conducted.

			Date	Date
Samples	Lab ID	Matrix	Collected	Analyzed
BG-RW01-080310	10080080-001	Water	8/3/2010	8/6/2010
BG-RW01-080310D	10080080-002	Water	8/3/2010	8/6/2010

2. Holding Times

The samples were analyzed within the required holding time limit of 180 days from sample collection to analysis.

3. Blank Results

A method blank was analyzed with the samples and was free of target analytes above the reporting limit. Cadmium and lead were detected below the reporting limit in the method blank and no qualification is required.

4. Laboratory Control Sample (LCS) Results

The LCS recoveries were within the laboratory-established quality control (QC) limits for target analytes.

5. Field Duplicate Results

The relative percent difference (RPD) between the field duplicate and investigative sample was calculated for the only detected metal which was lead. There is no RPD QC limit set for field duplicates; however, a standard RPD limit of 50 was used for comparison purposes. The RPD was 4 percent which is acceptable and indicates good correlation.

Data Validation Report Bautsch Gray Mine Site STAT Analysis Corporation Laboratory Project #: 10080080

6. <u>Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Results</u>

The laboratory analyzed an MS and MSD using a sample from another site so matrix interferences could not be evaluated. However, the percent recoveries and RPDs were within QC limits indicating good laboratory precision and accuracy.

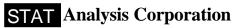
7. Overall Assessment

The metals data are acceptable for use based on the information received.

Data Validation Report Bautsch Gray Mine Site STAT Analysis Corporation Laboratory Project #: 10080080

ATTACHMENT

STAT ANALYSIS CORPORATION RESULTS SUMMARY



2242 West Harrison St., Suite 200, Chicago, IL 60612-3766

Tel: (312) 733-0551 Fax: (312) 733-2386 STATinfo@STATAnalysis.com

Accreditation Numbers: IEPA ELAP 100445; ORELAP IL300001; AIHA 101160; NVLAP LabCode 101202

Date Reported: August 06, 2010 **Date Printed:** August 06, 2010

Client: Weston Solutions

Project: Bautsch-Gray Sampling Event, Galena, IL Lab Order: 10080080

Lab ID: 10080080-001 **Collection Date** 8/3/2010 10:30:00 AM

Client Sample ID:BG-RW01-080310 Matrix: Water

Result RL Qualifier Units DF **Date Analyzed Analyses** Metals by ICP/MS SW6020 (SW3005A) Prep Date: 8/6/2010 Analyst: JG Arsenic ND 0.004 8/6/2010 mg/L 2 Cadmium ND 0.002 2 8/6/2010 mg/L 2 8/6/2010 Lead 0.0024 0.002 mg/L

Lab ID: 10080080-002 **Collection Date** 8/3/2010 10:30:00 AM

Client Sample ID:BG-RW01-080310D Matrix: Water

RL Qualifier Units DF Analyses Result **Date Analyzed** Metals by ICP/MS SW6020 (SW3005A) Prep Date: 8/6/2010 Analyst: JG Arsenic ND 0.004 2 8/6/2010 Cadmium ND 0.002 mg/L 2 8/6/2010 0.002 2 8/6/2010 Lead 0.0025 mg/L

ND - Not Detected at the Reporting Limit

Qualifiers: J - Analyte detected below quantitation limits

B - Analyte detected in the associated Method Blank

HT - Sample received past holding time

* - Non-accredited parameter

RL - Reporting / Quantitation Limit for the analysis

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits

E - Value above quantitation range

H - Holding time exceeded

BAUTSCH GRAY MINE SITE GALENA, ILLINOIS DATA VALIDATION REPORT

Date: November 18, 2010

Laboratory: Microbac Laboratories, Inc. (Microbac), Merrillville, Indiana

Laboratory Project #: 10J0989

Data Validation Performed By: Lisa Graczyk, Weston Solutions, Inc. (WESTON®) Superfund

Technical Assessment and Response Team (START)

Weston Work Order #/TDD #: 20405.012.001.0874.00/S05-0001-0911-035

This data validation report has been prepared by WESTON START under the START III Region V contract. This report documents the data validation for four water samples collected for the Bautsch Gray Mine Site that were analyzed for the following parameters and methods:

 Lead and Arsenic by United States Environmental Protection Agency (U.S. EPA) SW-846 Method 6010B

A level II data package was requested from Microbac. The data validation was conducted in general accordance with the U.S. EPA "Contract Laboratory Program National Functional Guidelines for Inorganic Superfund Data Review" dated January 2010. The Attachment contains the results summary sheets.

TOTAL METALS (ARSENIC, CADMIUM, AND LEAD) BY SW-846 METHOD 6020

1. Samples

The following table summarizes the samples for which this data validation is being conducted.

			Date	Date
Samples	Lab ID	Matrix	Collected	Analyzed
BG-746-102810	10J0989-01	Water	10/28/2010	11/1/2010
BG-842-102810	10J0989-02	Water	10/28/2010	11/1/2010
BG-842-102810D	10J0989-03	Water	10/28/2010	11/1/2010
BG-861-102810D	10J0989-04	Water	10/28/2010	11/1/2010

2. <u>Holding Times</u>

The samples were analyzed within the required holding time limit of 180 days from sample collection to analysis.

3. Blank Results

A method blank was analyzed with the samples and was free of target analytes above the reporting limit.

4. <u>Laboratory Control Sample (LCS) Results</u>

The LCS recoveries were within the laboratory-established quality control (QC) limits for target analytes.

5. Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Results

The laboratory analyzed an MS and MSD using a sample from another site so matrix interferences could not be evaluated. However, the percent recoveries and relative percent differences were within QC limits indicating good laboratory precision and accuracy.

6. Overall Assessment

The metals data are acceptable for use based on the information received.

Data Validation Report Bautsch Gray Mine Site Microbac Laboratories, Inc. Laboratory Project #: 10J0989

ATTACHMENT

MICROBAC LABORATORIES, INC. RESULTS SUMMARY



Work Order No.: 10J0989

November 4, 2010

LATA-Kemron Remediation LLC - Albuquerque, N 2424 Louisiana Blvd. NE, Suite 400 Albuquerque, NM 87110

Re: Bautsch - Gray Mine Site

Dear Vernon Giles:

Microbac Laboratories, Inc. - Chicagoland Division received 4 sample(s) on 10/29/2010 10:10:00AM for the analyses presented in the following report as Work Order 10J0989.

The enclosed results were obtained from and are applicable to the sample(s) as received at the laboratory. All sample results are reported on an "as received" basis unless otherwise noted.

All data included in this report have been reviewed and meet the applicable project specific and certification specific requirements, unless otherwise noted. A qualifications page is included in this report and lists the programs under which Microbac maintains certification.

This report has been paginated in its entirety and shall not be reproduced except in full, without the written approval of Microbac Laboratories.

We appreciate the opportunity to service your analytical needs. If you have any questions, please feel free to contact us.

Sincerely,

Microbac Laboratories, Inc.

u pu

Deborah Griffiths

Senior Project Manager



Date:

WORK ORDER SAMPLE SUMMARY

Client: LATA-Kemron Remediation LLC - Albuquerque, NM

Project: Bautsch - Gray Mine Site

Lab Order: 10J0989

Lab Sample ID	Client Sample ID	Tag Number	Collection Date	Date Received
10J0989-01	BG-746-102810		10/28/2010 10:00	10/29/2010 10:10:00AM
10J0989-02	BG-842-102810		10/28/2010 10:50	10/29/2010 10:10:00AM
10J0989-03	BG-842-102810D		10/28/2010 10:50	10/29/2010 10:10:00AM
10J0989-04	BG-861-102810D		10/28/2010 16:25	10/29/2010 10:10:00AM

Thursday, November 4, 2010



Analytical Results Date: Thursday, November 4, 2010

Client: LATA-Kemron Remediation LLC - Albuquerque, NM

Client Project: Bautsch - Gray Mine Site

 Client Sample ID:
 BG-746-102810
 Work Order/ID:
 10J0989-01

 Sample Description:
 Sampled:
 10/28/2010
 10:00

 Matrix:
 Aqueous
 Received:
 10/29/2010
 10:10

Analyses AT Result RL Qual Units DF Analyzed

Method: SW-846 6010B Analyst: SA

Method: SW-846 6010B					nalyst: SA	
Total Metals by ICP Prep Method: SW846 3010A						
Α	ND	0.010	mg/L	1	11/01/2010 16:45	
Α	ND	0.0075	mg/L	1	11/01/2010 16:45	
	A	Prep Method: SW846 30	Prep Method: SW846 3010A A	Prep Method: SW846 3010A P A	Prep Method: SW846 3010A Prep Date. A ND 0.010 mg/L 1	



Analytical Results Date: Thursday, November 4, 2010

Client: LATA-Kemron Remediation LLC - Albuquerque, NM

Client Project: Bautsch - Gray Mine Site

 Client Sample ID:
 BG-842-102810
 Work Order/ID:
 10J0989-02

 Sample Description:
 Sampled:
 10/28/2010
 10:50

 Matrix:
 Aqueous
 Received:
 10/29/2010
 10:10

Analyses AT Result RL Qual Units DF Analyzed

Method: SW-846 6010B

	Method: SW-846 6010B					nalyst: SA
Total Metals by ICP Prep Method: SW846 3010A					Prep Date	Time: 11/01/2010 08:04
Arsenic	Α	ND	0.010	mg/L	1	11/01/2010 16:50
Lead	A	ND	0.0075	mg/L	1	11/01/2010 16:50



Analytical Results Date: Thursday, November 4, 2010

Client: LATA-Kemron Remediation LLC - Albuquerque, NM

Client Project: Bautsch - Gray Mine Site

Client Sample ID: BG-842-102810D Work Order/ID: 10J0989-03

Sample Description: Sampled: 10/28/2010 10:50 10/29/2010 10:10 Matrix: Aqueous Received:

Analyses AT Result RΙ Units Analyzed Qual DF

^	naiyses	Ai Nesuit i		INL.	Quai	Ullits	וט	Allalyzeu
		Method: SW-846 6010B					Ar	nalyst:SA
To	Total Metals by ICP Prep Method: SW846 3010A					P	rep Date/	Time:11/01/2010 08:04
	Arsenic	Α	ND	0.010	n	ng/L	1	11/01/2010 16:56
	Lead	Α	ND	0.0075	m	ng/L	1	11/01/2010 16:56



Analytical Results Date: Thursday, November 4, 2010

Client: LATA-Kemron Remediation LLC - Albuquerque, NM

Client Project: Bautsch - Gray Mine Site

 Client Sample ID:
 BG-861-102810D
 Work Order/ID:
 10J0989-04

 Sample Description:
 Sampled:
 10/28/2010
 16:25

 Matrix:
 Aqueous
 Received:
 10/29/2010
 10:10

Analyses AT Result RL Qual Units DF Analyzed

Method: SW-846 6010B Analyst: SA

Method: SW-846 6010B					Analyst: SA			
Total Metals by ICP Prep Method: SW846 3010A								
Α	ND	0.010	mg/L	1	11/01/2010 17:02			
А	ND	0.0075	mg/L	1	11/01/2010 17:02			
	A	Prep Method: SW846 30	Prep Method: SW846 3010A A ND 0.010	Prep Method: SW846 3010A F A	Prep Method: SW846 3010A Prep Date A ND 0.010 mg/L 1			



FLAGS, FOOTNOTES AND ABBREVIATIONS (as needed)

NA = Not Analyzed

mg/L = Milligrams per Liter (ppm) mg/Kg = Milligrams per Kilogram (ppm)

U = Undetected

= Analyte concentration detected between RL and MDL (Metals / Organics)

B = Detected in the associated method Blank at a concentration above the routine PQL/RL

D = Dilution performed on sample

ND = Not Detected at the Reporting Limit (or the Method Detection Limit, if used)

E = Value above quantitation range

H = Analyte was prepared and/or analyzed outside of the analytical method holding time

= Matrix Interference

R = RPD outside accepted recovery limits
S = Spike recovery outside recovery limits

Surr = Surrogate
DF = Dilution Factor
RL = Reporting Limit

MDL = Method Detection Limit

ANALYTE TYPES: (AT)

A,B = Target Analyte
I = Internal Standard
M = Summation Analyte

S = Surrogate

T = Tentatively Identified Compound (TIC, concentration estimated)

QC SAMPLE IDENTIFICATIONS

MBLK	=	Method Blank	ICSA	=	Interference Check Standard "A"
DUP	=	Method Duplicate	ICSAB	=	Interference Check Standard "AB"
LCS	=	Laboratory Control Sample	LCSD	=	Laboratory Control Sample Duplicate
BS	=	Method Blank Spike	BSD	=	Method Blank Spike Duplicate
MS	=	Matrix Spike	MSD	=	Matrix Spike Duplicate
ICB	=	Initial Calibration Blank	CCB	=	Continuing Calibration Blank
ICV	=	Initial Calibration Verification	CCV	=	Continuing Calibration Verification
PDS	=	Post Digestion Spike	SD	=	Serial Dilution
OPR	=	Ongoing Precision and Recovery Standa	ard		

CERTIFICATIONS

Below is a list of certifications maintained by the Microbac Merrillville Laboratory. All data included in this report has been reviewed for and meets all project specific and quality control requirements of the applicable accreditation, unless otherwise noted. Complete lists of individual analytes pursuant to each certification below are available upon request.

Illinois EPA for the analysis wastewater and solid waste in accordance with the requirements of the National Environmental Laboratory Accreditation Program [NELAP] (accreditation #100435)

Illinois Department of Public Health for the microbiological analysis of drinking water (registry #1755266)

Indiana DEM approved support laboratory for solid waste and wastewater analyses

Indiana SDH for the chemical analysis of drinking water (lab #C-45-03)

Indiana SDH for the microbiological analysis of drinking water (lab #M-45-8)

Kentucky DEP for the chemical analysis of drinking water (lab #90147)

Kentucky EPPC for the analysis of samples applicable to the Underground Storage Tank program (lab #75)

*New York SDH for the chemical analysis of air and emissions (lab #11909)

North Carolina DENR for the environmental analysis for NPDES effluent, surface water, groundwater, and pretreatment regulations(certificate #597)

Tennessee DEC for the chemical analysis of drinking water (lab #04017)

Wisconsin DNR for the chemical analysis of wastewater and solid waste (lab #998036710)



COOLER INSPECTION

COOLER INS	LECTION			Da	te: Thurs	saay, Novembe	21 4, 2010	
Client Name: LA	TA-Kemron Remediation LLC - Alb	uquerque, NM	Date/Tim	e Receive	d: 10/29	/2010 10:10		
Work Order Numl	ber: 10J0989		Received	by: K e	en Smith			
Checklist complet	ed by: 10/29/2010 10:48:00AM	Ken Smith	Reviewed	d by: 1	1/2/2010	DD)G	
	<u></u>	Carrier Name: FedEx				-		
	Cooler ID: Default Cooler		Contain	ner/Temp I	Blank Temp	erature: 5.	.50°C	
Custody seals in Custody seals in Custody seals in COC present? COC included succession coccurrence of the COC included a COC included the Samples in propes ample containe Sufficient samples recell the samples ar	er/cooler in good condition? tact on shipping container/cooler? tact on sample containers? ufficient client identification? ufficient sample collector information sample description? usample labels? use appropriate matrix? ute of collection? use appropriate number of containers user container/bottle?	?	Yes		No	Not Present Not Present Not Present		
	If No, adjusted b	y?						
Samples receive Samples properly	y preserved? eous samples have zero headspace	9?	Yes Yes Yes Yes		No No No No	No VOA vials	submitted	✓
ANY "NO" EVA	LUATION (excluding After-Hour Rec		NT NOTIFIC	CATION.				
Sample ID	Client Sample ID	Comments						
10J0989-01	BG-746-102810							
10J0989-02	BG-842-102810							
10J0989-03	BG-842-102810D							
10J0989-04	BG-861-102810D							



Analytical QC Summary

Client: LATA-Kemron Remediation LLC - Albuquerque, NM **Metals - Quality Control**

10J0989 Work Order:

Bautsch - Gray Mine Site Project:

B007840 Prep: SW846 3010A Batch:

T	otal	Me	tals	bv	ICP

Total Metals by ICP										
Sample ID: Source:	Blank (B007840-BLK1)	N	lethod:	d: SW-846 6010B		Prepped: Analyzed:		11/01/2010 08:04 11/01/2010 14:57		
Analyte	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Qual
Arsenic	ND	0.010	mg/L							
Lead	ND	0.0075	mg/L							
Sample ID: Source:	LCS (B007840-BS1)	N	lethod:	SW-846	6010B	Prepped: Analyzed:		11/01/2010 08:04 11/01/2010 15:02		
Analyte	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Qual
Arsenic	1.91	0.010	mg/L	2.000		95.4	80-120		20	
Lead	1.93	0.0075	mg/L	2.000		96.5	80-120		20	
Sample ID: Source:	Matrix Spike (B007840-MS1) 10J0979-07	N	lethod:	SW-846	6010B	Prepped: Analyzed:		11/01/2010 08:04 11/01/2010 15:34		
Analyte	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	
Arsenic	1.95	0.010	mg/L	2.000	ND	97.3	75-125		20	
Lead	1.96	0.0075	mg/L	2.000	ND	97.8	75-125		20	
Sample ID: Source:	Matrix Spike Dup (B007840-MSD1) 10J0979-07	N	lethod:	SW-846 6010B		Prepped: Analyzed:		11/01/2010 08:04 11/01/2010 15:39		
Analyte	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Qual
Arsenic	1.96	0.010	mg/L	2.000	ND	98.0	75-125	0.768	20	
Lead	1.97	0.0075	mg/L	2.000	ND	98.4	75-125	0.663	20	

KLevel III For Lab Use Only [] Level III CLP-like [] Level IV CLP-like A e-mail (address) JEFF. BLYWINGSKY @ WESTEN SOUTTONS.COM 016989 00 20 ð 12490 Chain of Custody Record Date/Time Date/Time Date/Time Report Type 9 ₹ Archive ** Preservative Types: (1) HNO3, (2) H2SO4, (3) HCI, (4) NaOH, (5) Zinc Acetate, (6) Methanol, (7) Sodium Bisulfate, (8) Sodium Thiosulfate, (9) Hexane, (U) Unpreserved Sampler Phone # 708 - 2 84 Instructions on back [] Results Only Page []Level IV [] Level III Return [] EDD Received for Lab By (Signature) Number * Matrix Types: Soil/Solid (S), Sludge, Oil, Wipe, Drinking Water (DW), Groundwater (GW), Surface Water (SW); Waste Water (WW), Other (specify) Received By (signature) Received By (signature) [] Dispose as appropriate HRSEWIC **Turnaround Time** Routine (7 working days) (needed by) × × X [] RUSH* (notify lab) \times × 745 Indianapolis, IN 46278 [] 5713 West 85th Street Sample Disposition Fax: 317-872-1379 Preservative Tel: 317-872-1375 Requested Analyses Types ** 01/22/01 HNO-3 Project BrutscH - GRAY MINE RN Date/Time Date/Time Date/Time Compliance Monitoring? [] Yes(1) MNo No. of Containers 0 0 16:25 00001 0:00 Time Collected Relinquished By (signature) Relinquished By (signature) Relinquished By (signature) 名をたろうよ Sampler Signature Merrillville, IN 46410 01/82/0 | Radioactive [] 250 West 84th Drive Fax: 219-769-1664 Date Collected Tel: 219-769-8378 (1)Agency/Program Filtered Client Name LATA - KEMRON Project F Project F gares 2424 LOUISIANA BLVD NE SUTE 40 Location # Od Non-Hazardous Composite 15 Grab [] Fax (fax #) 8450 30 Submitted to: *xirisM JEFF BRYNIAGSKI Sample temperature upon receipt in degrees C = 5, [] Hazardous [] Telephone 14になし 水の水のひと Sity, State, Zip AUBUQUERQUE, ANM slephone # 464 - 353 - 0357 102000 Client Sample ID Bontact VERNON GILES 02000 102810 07270 [] Mail Sossible Hazard Identification ampled by (PRINT) N 120 2 2 3 3 300 end Report via Z Straum Bage rev. 11/04/04 -1000 00 S D B. C. 10 of 10/29/2010 LATA-Kemron Remediation

Bautsch - Grav Mine Site

BAUTSCH GRAY MINE SITE GALENA, ILLINOIS DATA VALIDATION REPORT

Date: August 25, 2011

Laboratory: STAT Analysis Corporation (STAT), Chicago, Illinois

Laboratory Project #: 11070581

Data Validation Performed By: Lisa Graczyk, Weston Solutions, Inc. (WESTON®) Superfund

Technical Assessment and Response Team (START)

Weston Work Order #/TDD #: 20405.012.001.0874.00/S05-0001-0911-035

This data validation report has been prepared by WESTON START under the START III Region V contract. This report documents the data validation for one water sample collected for the Bautsch Gray Mine Site that were analyzed for the following parameters and methods:

• Copper by United States Environmental Protection Agency (U.S. EPA) SW-846 Method 6020

• pH by U.S. EPA Method 150.1

A level II data package was requested from STAT. The data validation was conducted in general accordance with the U.S. EPA "Contract Laboratory Program National Functional Guidelines for Inorganic Superfund Data Review" dated January 2010. The Attachment contains the results summary sheets.

TOTAL METALS (ARSENIC AND LEAD) BY SW-846 METHOD 6020

1. Samples

The following table summarizes the samples for which this data validation is being conducted.

			Date	Date	
Samples	Lab ID	Matrix	Collected	Analyzed	
BG-746-071611	11070581-001A	Water	7/16/2011	7/25/2011	

2. <u>Holding Times</u>

The samples were analyzed within the required holding time limit of 180 days from sample collection to analysis.

3. Blank Results

A method blank was analyzed with the samples and was free of target analytes above the reporting limit.

4. <u>Laboratory Control Sample (LCS) Results</u>

The LCS recoveries were within the laboratory-established quality control (QC) limits for target analytes.

5. <u>Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Results</u>

The laboratory analyzed an MS and MSD using sample BG-746-071611 as the spiked sample. The percent recoveries and relative percent difference (RPD) were within QC limits indicating good laboratory precision and accuracy.

6. Overall Assessment

The metals data are acceptable for use based on the information received.

pH BY U.S. EPA METHOD 150.1

1. Samples

The following table summarizes the samples for which this data validation is being conducted.

			Date	Date
Samples	Lab ID	Matrix	Collected	Analyzed
BG-746-071611	11070581-001B	Water	7/16/2011	7/19/2011

2. Holding Times

There is no specific holding time limit for pH. The method states that samples are to be analyzed for pH as soon as possible. The sample was analyzed within three days of sample collection; no qualifications were applied. Note that the laboratory flagged the pH result with an "HT" to indicate that the sample was analyzed past its holding time limit.

Data Validation Report Bautsch Gray Mine Site STAT Analysis Corporation. Laboratory Project #: 11070581

3. <u>Laboratory Duplicate Results</u>

The laboratory duplicate has a RPD of 0.4 percent which is within QC limits.

4. Overall Assessment

The pH data are acceptable for use based on the information received.

ATTACHMENT

2242 West Harrison St., Suite 200, Chicago, IL 60612-3766

Tel: (312) 733-0551 Fax: (312) 733-2386 STATinfo@STATAnalysis.com

Accreditation Numbers: IEPA ELAP 100445; ORELAP IL300001; AIHA 101160; NVLAP LabCode 101202

Date Reported: July 26, 2011 **Date Printed:** July 26, 2011

Client: Weston Solutions

Lab Order: 11070581

Project: Bautsch Gray Mine RV, Galena, IL

Lab ID: 11070581-001

Client Sample ID: BG-746-071611

Collection Date: 7/16/2011 11:45:00 AM

Matrix: Aqueous

Analyses	Result	RL Qualifier	Units	DF	Date Analyzed
Metals by ICP/MS		(SW3005A)		Date: 7/25/2011	•
Copper pH	0.065 E150.1	0.01	mg/L Prop. l	² Date: 7/19/2011	7/25/2011 Analyst: MNG
рН	5.2	HT*	pH units	1	7/19/2011

ND - Not Detected at the Reporting Limit

J - Analyte detected below quanititation limits

B - Analyte detected in the associated Method Blank

HT - Sample received past holding time

* - Non-accredited parameter

Qualifiers:

RL - Reporting / Quantitation Limit for the analysis

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits

E - Value above quantitation range

BAUTSCH GRAY MINE SITE GALENA, ILLINOIS DATA VALIDATION REPORT

Date: July 20, 2011

Laboratory: STAT Analysis Corporation (STAT), Chicago, Illinois

Laboratory Project #: 11070331

Data Validation Performed By: Lisa Graczyk, Weston Solutions, Inc. (WESTON®) Superfund

Technical Assessment and Response Team (START)

Weston Work Order #/TDD #: 20405.012.001.0874.00/S05-0001-0911-035

This data validation report has been prepared by WESTON START under the START III Region V contract. This report documents the data validation for one water sample collected for the Bautsch Gray Mine Site that were analyzed for the following parameters and methods:

 Lead and Arsenic by United States Environmental Protection Agency (U.S. EPA) SW-846 Method 6020

A level II data package was requested from STAT. The data validation was conducted in general accordance with the U.S. EPA "Contract Laboratory Program National Functional Guidelines for Inorganic Superfund Data Review" dated January 2010. The Attachment contains the results summary sheets.

TOTAL METALS (ARSENIC AND LEAD) BY SW-846 METHOD 6020

1. <u>Samples</u>

The following table summarizes the samples for which this data validation is being conducted.

			Date	Date
Samples	Lab ID	Matrix	Collected	Analyzed
BG-746-071111	11070331-001A	Water	7/11/2011	7/13/2011

2. <u>Holding Times</u>

The samples were analyzed within the required holding time limit of 180 days from sample collection to analysis.

3. Blank Results

A method blank was analyzed with the samples and was free of target analytes above the reporting limit. Lead was detected below the reporting limit in the method blank at 0.00377 milligram per liter (mg/L). The sample result was detected above the reporting limit at 0.0052 mg/L. This is close to the method blank result and was flagged "U" as not detected.

4. <u>Laboratory Control Sample (LCS) Results</u>

The LCS recoveries were within the laboratory-established quality control (QC) limits for target analytes.

5. Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Results

The laboratory analyzed an MS and MSD using a sample from another site so matrix interferences could not be evaluated. However, the percent recoveries and relative percent differences were within QC limits indicating good laboratory precision and accuracy.

6. Overall Assessment

The metals data are acceptable for use based on the information received.

ATTACHMENT



2242 West Harrison St., Suite 200, Chicago, IL 60612-3766

Tel: (312) 733-0551 Fax: (312) 733-2386 STATinfo@STATAnalysis.com

Accreditation Numbers: IEPA ELAP 100445; ORELAP IL300001; AIHA 101160; NVLAP LabCode 101202

Report Date: July 13, 2011 **Print Date:** July 13, 2011

Client:

Weston Solutions

Client Sample ID: BG-746-071111

Lab Order:

11070331

Tag Number:

Project:

Bautsch Water Sample

Collection Date: 7/11/2011 4:30:00 PM

Lab ID: 11070331-001A **Matrix:** Water

Analyses Result Qualifier Units RLDF **Date Analyzed** Metals by ICP/MS SW6020 (SW3005A) Prep Date: 7/13/2011 Analyst: JG Arsenic ND 0.004 mg/L 2 7/13/2011 Lead 0.0052 U 0.004 mg/L 2 7/13/2011

28

Qualifiers:

ND - Not Detected at the Reporting Limit

J - Analyte detected below quantitation limits

B - Analyte detected in the associated Method Blank

HT - Sample received past holding time

* - Non-accredited parameter

RL - Reporting / Quantitation Limit for the analysis

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits

E - Value above quantitation range

BAUTSCH GRAY MINE SITE GALENA, ILLINOIS DATA VALIDATION REPORT

Date: August 23, 2011

Laboratory: STAT Analysis Corporation (STAT), Chicago, Illinois

Laboratory Project #: 11080481

Data Validation Performed By: Lisa Graczyk, Weston Solutions, Inc. (WESTON®) Superfund

Technical Assessment and Response Team (START)

Weston Work Order #/TDD #: 20405.012.001.0874.00/S05-0001-0911-035

This data validation report has been prepared by WESTON START under the START III Region V contract. This report documents the data validation for five water samples collected for the Bautsch Gray Mine Site that were analyzed for the following parameters and methods:

• pH by United States Environmental Protection Agency (U.S. EPA) Method 150.1

A level II data package was requested from STAT. The data validation was conducted in general accordance with the U.S. EPA "Contract Laboratory Program National Functional Guidelines for Inorganic Superfund Data Review" dated January 2010. The Attachment contains the results summary sheets.

pH BY U.S. EPA METHOD 150.1

1. Samples

The following table summarizes the samples for which this data validation is being conducted.

			Date	Date
Samples	Lab ID	Matrix	Collected	Analyzed
BG-SW04-081111	11080481-001A	Water	8/11/2011	8/12/2011
BG-746-TAP03-081111	11080481-002A	Water	8/11/2011	8/12/2011
BG-746-TAP02-081111	11080481-003A	Water	8/11/2011	8/12/2011
BG-746-TAP01-081111	11080481-004A	Water	8/11/2011	8/12/2011
BG-746-TAP01-081111D	11080481-005A	Water	8/11/2011	8/12/2011

2. <u>Holding Times</u>

There is no specific holding time limit for pH. The method states that samples are to be analyze for pH as soon as possible. The samples were analyzed within one day of sample collection which is acceptable.

3. <u>Laboratory Duplicate Results</u>

The laboratory duplicate has a relative percent difference (RPD) of 0.5 percent which is within quality control (QC) limits.

4. <u>Field Duplicate Results</u>

Sample BG-746-TAP01-081111D is a field duplicate of sample BG-746-TAP01-081111. The RPD between the field duplicate and parent sample is 10 percent which is acceptable.

5. Overall Assessment

The pH data are acceptable for use based on the information received.

ATTACHMENT

2242 West Harrison St., Suite 200, Chicago, IL 60612-3766 Tel: (312) 733-0551 Fax: (312) 733-2386 STATinfo@STATAnalysis.com

Accreditation Numbers: IEPA ELAP 100445; ORELAP IL300001; AIHA 101160; NVLAP LabCode 101202-

Date Reported: August 15, 2011 August 15, 2011 **Date Printed:**

				Da	ate Printed:	August 15,	2011
Client:	Weston Solutions						
Project:	Bautsch-Gray Mine RV, G	alena, IL]	Lab Order	: 11080481	
Lab ID:	11080481-001			Colle	ection Date	: 8/11/2011 4:	55:00 PM
Client Sample ID	BG-SW04-081111				Matrix	: Water	
Analyses		Result	RL	Qualifier	Units	DF	Date Analyzed
рН рН		E150.1 7.3		*	Prep DpH units	Date: 8/12/201 1 1	Analyst: RW 8/12/2011
Lab ID:	11080481-002			Colle		: 8/11/2011 4:	50:00 PM
Client Sample ID Analyses	BG-746-TAP03-081111	Result	RL	Qualifier	Matrix Units		Date Analyzed
pH pH		E150.1 6.7		*	Prep D pH units	Pate: 8/12/201 1 1	Analyst: RW 8/12/2011
Lab ID:	11080481-003			Colle	ection Date	: 8/11/2011 4:	46:00 PM
Client Sample ID	BG-746-TAP02-081111				Matrix	: Water	
Analyses		Result	RL	Qualifier	Units	DF	Date Analyzed
рН рН		E150.1 6.8		*	Prep D pH units	Date: 8/12/201 1 1	Analyst: RW 8/12/2011
Lab ID:	11080481-004			Colle	ection Date	: 8/11/2011 4:	40:00 PM
Client Sample ID	BG-746-TAP01-081111				Matrix	: Water	
Analyses		Result	RL	Qualifier	Units	DF	Date Analyzed
рН рН		E150.1 6.2		*	Prep D pH units	Date: 8/12/201 1 1	Analyst: RW 8/12/2011
Lab ID: Client Sample ID	11080481-005 BG-746-TAP01-081111D			Colle		: 8/11/2011 4: : Water	40:00 PM
Analyses	DO-140-1711 01-001111D	Result	RL	Qualifier			Date Analyzed
pH pH		E150.1 5.6		*	Prep DpH units	Date: 8/12/201 1	Analyst: RW 8/12/2011

ND - Not Detected at the Reporting Limit

J - Analyte detected below quantitation limits

B - Analyte detected in the associated Method Blank

HT - Sample received past holding time

* - Non-accredited parameter

Qualifiers:

RL - Reporting / Quantitation Limit for the analysis

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits

E - Value above quantitation range

BAUTSCH GRAY MINE SITE GALENA, ILLINOIS DATA VALIDATION REPORT

Date: August 13, 2012

Laboratory: STAT Analysis Corporation (STAT), Chicago, Illinois

Laboratory Project #: 12070514

Data Validation Performed By: Lisa Graczyk, Weston Solutions, Inc. (WESTON®) Superfund

Technical Assessment and Response Team (START)

Weston Work Order #/TDD #: 20405.012.001.0874.00/S05-0001-0911-035

This data validation report has been prepared by WESTON START under the START III Region V contract. This report documents the data validation for four water sample collected for the Bautsch Gray Mine Site that were analyzed for the following parameters and methods:

- Arsenic, Copper, and Lead by United States Environmental Protection Agency (U.S. EPA) SW-846 Method 6020
- pH by U.S. EPA Method 150.1

A level II data package was requested from STAT. The data validation was conducted in general accordance with the U.S. EPA "Contract Laboratory Program National Functional Guidelines for Inorganic Superfund Data Review" dated January 2010. The Attachment contains the results summary sheets.

TOTAL METALS (ARSENIC, COPPER, AND LEAD) BY SW-846 METHOD 6020

1. <u>Samples</u>

The following table summarizes the samples for which this data validation is being conducted.

			Date	
Samples	Lab ID	Matrix	Collected	Date Analyzed
BG-RW01-071112	12070514-001	Water	7/11/2012	7/17/2012 – 7/18/2012
BG-RW02-071112	12070514-002	Water	7/11/2012	7/17/2012
BG-RW02D-071112	12070514-003	Water	7/11/2012	7/17/2012
BG-RW03-071212	12070514-004	Water	7/12/2012	7/17/2012 – 7/18/2012

2. Holding Times

The samples were analyzed within the required holding time limit of 180 days from sample collection to analysis.

3. Blank Results

A method blank was analyzed with the samples and was free of target analytes above the reporting limit. Lead was detected below the reporting limit in the method blank at 0.00157 milligram per liter (mg/L). Two of the lead results were less than half this concentration and were flagged "U" as not detected. These lead concentrations are likely due to lead contamination.

4. <u>Laboratory Control Sample (LCS) Results</u>

The LCS recoveries were within the laboratory-established quality control (QC) limits for target analytes.

5. <u>Matrix Spike (MS) Results</u>

The laboratory analyzed an MS using sample BG-RW01-071112 as the spiked sample. The percent recoveries and relative percent differences (RPD) were within QC limits indicating good laboratory precision and accuracy.

6. Overall Assessment

The metals data are acceptable for use as qualified based on the information received.

pH BY U.S. EPA METHOD 150.1

1. <u>Samples</u>

The following table summarizes the samples for which this data validation is being conducted.

			Date	Date
Samples	Lab ID	Matrix	Collected	Analyzed
BG-RW01-071112	12070514-001	Water	7/11/2012	7/12/2012
BG-RW02-071112	12070514-002	Water	7/11/2012	7/12/2012
BG-RW02D-071112	12070514-003	Water	7/11/2012	7/12/2012
BG-RW03-071212	12070514-004	Water	7/12/2012	7/12/2012

2. <u>Holding Times</u>

There is no specific holding time limit for pH. The method states that samples are to be analyzed for pH as soon as possible. The samples were analyzed within 24 hours of sample collection; no qualifications were applied.

3. Overall Assessment

The pH data are acceptable for use based on the information received.

ATTACHMENT

2242 West Harrison St., Suite 200, Chicago, IL 60612-3766
Tel: (312) 733-0551 Fax: (312) 733-2386 STATinfo@STATAnalysis.com
Accreditation Numbers: IEPA ELAP 100445; ORELAP IL300001; AIHA 101160; NVLAP LabCode 101202

Date Reported: July 19, 2012 Date Printed: July 19, 2012

Client:

Weston Solutions

Lab Order:

12070514

Project:

Bautsch-Gray Mine RV, Galea, IL

Lab ID:

12070514-001

Client Sample ID: BG-RW01-071112

Collection Date: 7/11/2012 2:50:00 PM

Matrix: Water

Analyses	Result	RL Qualifie	Units	DF	Date Analyzed
Metals by ICP/MS	SW6020	(SW3005A)	Prep	Date: 7/17/2012	Analyst: JG
Arsenic	ND	0.004	mg/L	2	7/17/2012
Copper	0.2	0.01	mg/L	2	7/18/2012
Lead	0.0029 <i>U</i>	0.002	mg/L	2	7/17/2012
рН	E150.1		Prep	Date: 7/12/2012	Analyst: MNG
рН	5.4	HT	pH units	1	7/12/2012

2)
8/13/12

Qualifiers:

ND - Not Detected at the Reporting Limit

J - Analyte detected below quantitation limits

B - Analyte detected in the associated Method Blank

HT - Sample received past holding time

* - Non-accredited parameter

RL - Reporting / Quantitation Limit for the analysis

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits

E - Value above quantitation range

2242 West Harrison St., Suite 200, Chicago, IL 60612-3766

Tel: (312) 733-0551 Fax: (312) 733-2386 STATinfo@STATAnalysis.com

Accreditation Numbers: IEPA ELAP 100445; ORELAP IL300001; AIHA 101160; NVLAP LabCode 101202

Date Reported: July 19, 2012 Date Printed: July 19, 2012

Client:

Weston Solutions

Lab Order:

12070514

Project:

Bautsch-Gray Mine RV, Galea, IL

Lab ID:

12070514-002

Client Sample ID: BG-RW02-071112

Collection Date: 7/11/2012 3:15:00 PM

Matrix: Water

Analyses		Result	RL Qualifier	Units	DF	Date Analyzed
Metals by ICP/MS		SW6020	(SW3005A)	Prep	Date: 7/17/2012	Analyst: JG
Arsenic		ND ,	0.004	mg/L	2	7/17/2012
Lead	50.00	0.002 <i>U</i>	0.002	mg/L	2	7/17/2012
рН		E150.1		Prep	Date: 7/12/2012	Analyst: MNG
рH		7.1	HT	pH units	1	7/12/2012

29 8/13/P

Qualifiers:

ND - Not Detected at the Reporting Limit

J - Analyte detected below quantitation limits

B - Analyte detected in the associated Method Blank

HT - Sample received past holding time

* - Non-accredited parameter

RL - Reporting / Quantitation Limit for the analysis

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits

E - Value above quantitation range

2242 West Harrison St., Suite 200, Chicago, IL 60612-3766

Tel: (312) 733-0551 Fax: (312) 733-2386 STATinfo@STATAnalysis.com

Accreditation Numbers: IEPA ELAP 100445; ORELAP IL300001; AIHA 101160; NVLAP LabCode 101202

Date Reported: July 19, 2012 Date Printed: July 19, 2012

Client:

Weston Solutions

Lab Order:

12070514

Project:

Bautsch-Gray Mine RV, Galea, IL

Lab ID:

12070514-003

Client Sample ID: BG-RW02D-071112

Collection Date: 7/11/2012 3:15:00 PM

Matrix: Water

Analyses	Result	RL Qualifier	Units DF	Date Analyzed
Metals by ICP/MS	SW6020	(SW3005A)	Prep Date: 7/17/2012	Analyst: JG
Arsenic	ND	0.004	mg/L 2	7/17/2012
Lead	ND	0.002	mg/L 2	7/17/2012
рН	E150.1		Prep Date: 7/12/2012	Analyst: MNG
pH	7.1	HT	pH units 1	7/12/2012

Qualifiers:

ND - Not Detected at the Reporting Limit

J - Analyte detected below quantitation limits

B - Analyte detected in the associated Method Blank

HT - Sample received past holding time

* - Non-accredited parameter

RL - Reporting / Quantitation Limit for the analysis

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits

E - Value above quantitation range

2242 West Harrison St., Suite 200, Chicago, IL 60612-3766 Tel: (312) 733-0551 Fax: (312) 733-2386 STATinfo@STATAnalysis.com Accreditation Numbers: IEPA ELAP 100445; ORELAP IL300001; AIHA 101160; NVLAP LabCode 101202

> Date Reported: July 19, 2012 Date Printed: July 19, 2012

Client:

Weston Solutions

Lab Order:

12070514

Client Sample ID: BG-RW03-071112

Collection Date: 7/12/2012 9:35:00 AM

Project:

Bautsch-Gray Mine RV, Galea, IL

Matrix: Water

Lab ID:

12070514-004

Analyses	Result	RL Qualifier	Units	DF	Date Analyzed
Metals by ICP/MS	SW60	20 (SW3005A)	Prep	Date: 7/17/2012	Analyst: JG
Arsenic	ND	0.004	mg/L	2	7/17/2012
Copper	0.011	0.01	mg/L	2	7/18/2012
Lead	0.03	0.002	mg/L	2	7/17/2012
рН	E150.	1	Prep	Date: 7/12/2012	Analyst: MNG
pH	6.9		pH units	1	7/12/2012

ND - Not Detected at the Reporting Limit

J .- Analyte detected below quantitation limits

B - Analyte detected in the associated Method Blank

HT - Sample received past holding time

* - Non-accredited parameter

RL - Reporting / Quantitation Limit for the analysis

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits

E - Value above quantitation range

BAUTSCH GRAY MINE SITE GALENA, ILLINOIS DATA VALIDATION REPORT

Date: March 14, 2013

Laboratory: STAT Analysis Corporation (STAT), Chicago, Illinois

Laboratory Project #: 13020252

Data Validation Performed By: Lisa Graczyk, Weston Solutions, Inc. (WESTON®) Superfund

Technical Assessment and Response Team (START)

Weston Work Order #/TDD #: 20405.012.001.0874.00/S05-0001-0911-035

This data validation report has been prepared by WESTON START under the START III Region V contract. This report documents the data validation for two water samples collected for the Bautsch Gray Mine Site that were analyzed for the following parameters and methods:

 Arsenic and Lead (total and dissolved) by United States Environmental Protection Agency (U.S. EPA) SW-846 Method 6020

• pH by U.S. EPA Method 150.1

A level II data package was requested from STAT. The data validation was conducted in general accordance with the U.S. EPA "Contract Laboratory Program National Functional Guidelines for Inorganic Superfund Data Review" dated January 2010. The Attachment contains the results summary sheets.

TOTAL METALS (ARSENIC AND LEAD) BY SW-846 METHOD 6020

1. <u>Samples</u>

The following table summarizes the samples for which this data validation is being conducted.

			Date	Date
Samples	Lab ID	Matrix	Collected	Analyzed
BG-HP-TW-021213	13020252-001	Water	2/12/2013	2/18/2013
BG-HP-RW-021213	13020252-002	Water	2/12/2013	2/18/2013
BG-HP-RW-021213-05	13020252-003	Water	2/12/2013	2/20/2013
BG-HP-RW-021213-045	13020252-004	Water	2/12/2013	2/20/2013

2. Holding Times

The samples were analyzed within the required holding time limit of 180 days from sample collection to analysis.

3. Blank Results

Method blanks were analyzed with the samples and were free of target analytes above the reporting limit. Lead was detected below the reporting limit in the method blank; however, the sample concentration was much greater and no qualification was required.

4. <u>Laboratory Control Sample (LCS) Results</u>

The LCS recoveries were within the laboratory-established quality control (QC) limits for target analytes.

5. Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Results

The laboratory analyzed an MS and MSD using sample BG-HP-RW-021213-05 as the spiked sample. The percent recoveries and relative percent differences (RPD) were within QC limits indicating good laboratory precision and accuracy.

6. Overall Assessment

The metals data are acceptable for use based on the information received.

pH BY U.S. EPA METHOD 150.1

1. <u>Samples</u>

The following table summarizes the samples for which this data validation is being conducted.

			Date	Date
Samples	Lab ID	Matrix	Collected	Analyzed
BG-HP-TW-021213	13020252-001	Water	2/12/2013	2/13/2013
BG-HP-RW-021213	13020252-002	Water	2/12/2013	2/13/2013

2. <u>Holding Times</u>

There is no specific holding time limit for pH. The method states that samples are to be analyzed for pH as soon as possible. The sample was analyzed within one day of sample collection.

3. Overall Assessment

The pH data are acceptable for use based on the information received.

ATTACHMENT

2242 West Harrison St., Suite 200, Chicago, IL 60612-3766 Tel: (312) 733-0551 Fax: (312) 733-2386 STATinfo@STATAnalysis.com

Accreditation Numbers: IEPA ELAP 100445; ORELAP IL300001; AIHA 101160; NVLAP LabCode 101202-

Date Reported: February 22, 2013 **Date Printed:** February 22, 2013

				D	ate Printed	: February 22,	2013
Client:	Weston Solutions						
Project:	Bautsch Gray Mine Site, C	Galena, IL			Lab Order	: 13020252	
Lab ID:	13020252-001			Coll	ection Date	e: 2/12/2013 2:2	20:00 PM
Client Sample ID	BG-HP-TW-021213				Matrix	x: Water	
Analyses		Result	RL	Qualifier	Units	DF	Date Analyzed
Metals by ICP/MS Arsenic Lead		SW6020 ND ND	0.004 0.004	8005A)	Prep [mg/L mg/L	Date: 2/18/2013 2 2	Analyst: JG 2/18/2013 2/18/2013
pH pH		E150.1 5.5			Prep [pH units	Date: 2/13/2013 1	Analyst: PBG 2/13/2013
Lab ID:	13020252-002	Collection Date: 2/12/2013 2:05:00 PM					
Client Sample ID	BG-HP-RW-021213				Matrix	x: Water	
Analyses		Result	RL	Qualifier	Units	DF	Date Analyzed
Metals by ICP/MS Arsenic Lead		SW6020 ND ND	0.004 0.004	8005A)	Prep [mg/L mg/L	Date: 2/18/2013 2 2	Analyst: JG 2/18/2013 2/18/2013
pH pH		E150.1 5.4			Prep [pH units	Date: 2/13/2013 1	Analyst: PBG 2/13/2013
Lab ID:	13020252-003	Collection Date: 2/12/2013 2:05:00 PM					
Client Sample ID	BG-HP-RW-021213-05	Matrix: Water					
Analyses		Result	RL	Qualifier	Units	DF	Date Analyzed
Dissolved Metals I Arsenic Lead	by ICP/MS	SW6020 ND ND	0.004 0.004	8005A)	Prep [mg/L mg/L	Date: 2/20/2013 2 2	Analyst: JG 2/20/2013 2/20/2013
Lab ID:	13020252-004	Collection Date: 2/12/2013 2:05:00 PM					
Client Sample ID	BG-HP-RW-021213-045	Matrix: Water					
Analyses		Result	RL	Qualifier	Units	DF	Date Analyzed
Dissolved Metals by ICP/MS		SW6020	SW6020 (SW3005A)		Prep Date: 2/20/2013		Analyst: JG
Arsenic Lead		ND ND	0.004 0.004	-	mg/L mg/L	2 2	2/20/2013 2/20/2013

ND - Not Detected at the Reporting Limit

J - Analyte detected below quantitation limits

B - Analyte detected in the associated Method Blank

HT - Sample received past holding time

* - Non-accredited parameter

Qualifiers:

RL - Reporting / Quantitation Limit for the analysis

S - Spike Recovery outside accepted recovery limits

5 - Spike Recovery outside accepted recovery lilling

R - RPD outside accepted recovery limitsE - Value above quantitation range

H - Holding time exceeded

ii - Holding time exec

BAUTSCH GRAY MINE SITE GALENA, ILLINOIS DATA VALIDATION REPORT

Date: August 26, 2013

Laboratory: STAT Analysis Corporation (STAT), Chicago, Illinois

Laboratory Project #: 13071301

Data Validation Performed By: Lisa Graczyk, Weston Solutions, Inc. (WESTON®) Superfund

Technical Assessment and Response Team (START)

Weston Work Order #/TDD #: 20405.012.001.0874.00/S05-0001-0911-035

This data validation report has been prepared by WESTON START under the START III Region V contract. This report documents the data validation for three water sample collected for the Bautsch Gray Mine Site that were analyzed for the following parameters and methods:

- Arsenic, Copper, and Lead by United States Environmental Protection Agency (U.S. EPA) SW-846 Method 6020
- pH by U.S. EPA Method 150.1

A level II data package was requested from STAT. The data validation was conducted in general accordance with the U.S. EPA "Contract Laboratory Program National Functional Guidelines for Inorganic Superfund Data Review" dated January 2010. The Attachment contains the results summary sheets.

TOTAL METALS (ARSENIC, COPPER, AND LEAD) BY SW-846 METHOD 6020

1. <u>Samples</u>

The following table summarizes the samples for which this data validation is being conducted.

			Date	Date
Samples	Lab ID	Matrix	Collected	Analyzed
BG-RW01-072513	13071301-001	Water	7/25/2013	8/2/2013
BG-RW01-072513D	13071301-002	Water	7/25/2013	8/2/2013
BG-RW02-072513	13071301-003	Water	7/25/2013	8/2/2013

2. <u>Holding Times</u>

The samples were analyzed within the required holding time limit of 180 days from sample collection to analysis.

3. Blank Results

A method blank was analyzed with the samples and was free of target analytes above the reporting limit. Lead was detected below the reporting limit in the method blank at 0.00369 milligram per liter (mg/L). Two of the lead results were less than twice this concentration and were flagged "U" as not detected. These lead concentrations are likely due to lead contamination. Note that copper was also detected below the reporting limit; however, the sample concentrations were much greater than the blank concentration and no qualification was required.

4. Laboratory Control Sample (LCS) Results

The LCS recoveries were within the laboratory-established quality control (QC) limits for target analytes.

5. <u>Matrix Spike (MS) Results</u>

The laboratory analyzed an MS using a sample from another site. For the MS/MSD analyzed, the percent recoveries and relative percent differences (RPD) were acceptable.

6. Field Duplicate Results

Sample BG-RW01-072513D is a field duplicate of sample BG-RW01-072513. There was excellent correlation between the field duplicate and corresponding investigative sample.

7. Overall Assessment

The metals data are acceptable for use as qualified based on the information received.

pH BY U.S. EPA METHOD 150.1

1. Samples

The following table summarizes the samples for which this data validation is being conducted.

			Date	Date	
Samples	Lab ID	Matrix	Collected	Analyzed	
BG-RW01-072513	13071301-001	Water	7/25/2013	7/26/2013	
BG-RW01-072513D	13071301-002	Water	7/25/2013	7/26/2013	
BG-RW02-072513	13071301-003	Water	7/25/2013	7/26/2013	

2. <u>Holding Times</u>

There is no specific holding time limit for pH. The method states that samples are to be analyzed for pH as soon as possible. The samples were analyzed within 24 hours of sample collection; no qualifications were applied.

3. Laboratory Duplicate Results

The RPD for the laboratory duplicate was within QC limits.

4. Field Duplicate Results

Sample BG-RW01-072513D is a field duplicate of sample BG-RW01-072513. There was excellent correlation between the field duplicate and corresponding investigative sample.

5. Overall Assessment

The pH data are acceptable for use based on the information received.

ATTACHMENT

2242 West Harrison St., Suite 200, Chicago, IL 60612-3766 Tel: (312) 733-0551 Fax: (312) 733-2386 STATinfo@STATAnalysis.com Accreditation Numbers: IEPA ELAP 100445; ORELAP IL300001; AIHA 101160; NVLAP LabCode 101202-

Date Reported:

August 07, 2013

Date Printed:

August 07, 2013

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nent:

Weston Solutions

Project:

Bautsch Mine RV, Galena, IL

Lab Order:

13071301

Lab ID:

13071301-001

Collection Date: 7/25/2013 10:15:00 AM

Client Sample ID BG-RW01-072513

Matrix: Water

Analyses		Result	RL	Qualifier	Units	DF	Date Analyzed
Metals by ICP/MS		SW60	20 (SW3	005A)	Prep	Date: 8/2/2013	Analyst: JG
Arsenic		ND	0.004		mg/L	2	8/2/2013
Copper		0.028	0.01		mg/L	2	8/2/2013
Lead	8	0.005 U	0.004		mg/L	2	8/2/2013
pH		E150.	1		Prep	Date: 7/26/201	3 Analyst: RW
pH		5.1			pH units	1	7/26/2013

Lab ID:

Client Sample ID

13071301-002

BG-RW01-072513D

Collection Date: 7/25/2013 10:15:00 AM

Matrix: Water

Analyses Result RL Qualifier Units DF **Date Analyzed** Metals by ICP/MS SW6020 (SW3005A) Prep Date: 8/2/2013 Analyst: JG Arsenic ND 0.004 2 8/2/2013 mg/L Copper 0.028 0.01 mg/L 2 8/2/2013 Lead 0.0045 D 0.004 mg/L 2 8/2/2013 pΗ E150.1 Prep Date: 7/26/2013 Analyst: RW рН 5.2 pH units 7/26/2013

Lab ID:

13071301-003

Collection Date: 7/25/2013 10:30:00 AM

Matrix: Water

Analyses

Client Sample ID BG-RW02-072513

Result

RL Qualifier Units

DF

Date Analyzed

			1000		
Metals by ICP/MS	SW66	Prep	Analyst: JG		
Arsenic	ND	0.004	mg/L	2	8/2/2013
Copper	0.014	0.01	mg/L	2	8/2/2013
Lead	0.028	0.004	mg/L	2	8/2/2013
рН	E150.1		Prep	Analyst: RW	
Hq	6.9		pH units	1	7/26/2013
рН	6.9		pH units	1	7/26/2013

28/26/13

Qualifiers:

ND - Not Detected at the Reporting Limit

J - Analyte detected below quantitation limits

B - Analyte detected in the associated Method Blank

HT - Sample received past holding time

* - Non-accredited parameter

RL - Reporting / Quantitation Limit for the analysis

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits

E - Value above quantitation range